GROWTH DEVELOPMENT & SERVICES OF NATIONAL AGRICULTURAL LIBRARY, NEW DELHI, NATIONAL MEDICAL LIBRARY, NEW DELHI, NATIONAL SCIENCE LIBRARY, NEW DELHI: A COMPARATIVE STUDY

ABSTRACT
THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

LIBRARY & INFORMATION SCIENCE

BY

NISHAT FATIMA

DEPARTMENT OF LIBRARY & INFORMATION SCIENCE
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2009

Abstract

Libraries are the basic centre for the dissemination and communication of ideas and knowledge through the recorded and graphic materials kept in them systematically organized and processed. Libraries are the multi purpose institution to gather, organizes, preserve, socialize and serve all expressed thoughts, irrespective of the format. Due to high degree of specialization in the present era of scientific and technological development the librarians are not only concerned with the repository of knowledge of all subjects but this give the birth of the special libraries of different subjects.

In this Age, when the developments in information technology is fast and varied in nature we find considerable application in libraries and information centres but the libraries are merely concerned with information regardless of the format in which it appears or is packaged .The other factors or aspects constitute an important elements in library's operation. Therefore, various media of communication, broadly speaking books and electronic forms have to find their due place within the domain of a modern library.

A library being a social agency must, therefore, be planned according to meet the social needs of the community it is designed to serve. Whether, the community be general, academic, or special with the advancement in the field of science and technology, the concept , role and function of the libraries is changing.

The scientific and technological program in India has been quite rapid in comparisons to other developing centuries. During past few decades, India is

trying to accelerate its information activities and new information centres have been set up in areas of Science and Technology . Librarian are moving beyond their traditional role as custodian of printed material and integrating new methods of information storage, retrieval and transmission into existing collection and services and also started applying new technologies and accept new effective and efficient, media of communication in the mainstream of the library for achieving the basic objectives of dissemination of information and ideas to the users in the desired format, speed and relevance.

The scope of the study has been taken up to look into the available resources of the library and the extent of their use by different kinds of users. The study is limited to the three special libraries which are also acting as national libraries in their own subject i.e. national agricultural library, National Science Library and National Medical Library. All the three libraries are located at New Delhi.

Utility of the study is to find out the development of the libraries in their respective subject and the services provided by the libraries and satisfying the need of the users keeping in view the information needs and the developments in the information technology and form of the document collection in the future of the users. . It is expected the result of this study would be known to the user groups and it will then create awareness amongst them. This study would also reveal the potentials of the libraries.

The objective of the study is:

1 To trace the historical development and growth of libraries.

2 To trace the growth and development in terms of collection and budget.

3 To trace the current status of the libraries in terms of resources & services.

4 To identify the weakness of the librarian.

5 To determine the extent of the use of library resource and service and ascertain users priority for change in services.

6 To find out the factors for show development of libraries.

7 To make suggestions for better growth, development and services of the libraries.

The scope of the study is to asses the growth, development and the services imparted by these libraries. For the purpose survey method has been used and it employed questionnaires, interview, and observation technique. The study is based on the primary data. However, in some cases, secondary data have also been considered as per the rule. Only, reliable, valid and pertinent data were organized, tabulated compared, analyzed and interpreted with the help of simple statistical technique. The analysis of the data collected has been presented with the help of figures Pie diagram. The above data, findings and conclusions have been arrived. The population of the study consists of users of libraries which include students, research scholars, teachers, and scientists

etc. Due to large number of users of these libraries. The sample was selected randomly i.e. from IARI 15%, from NML18%, and from NSL 90% because they do not have membership but they have daily membership basis that is why percentage is larger from other libraries.

Two questionnaire were framed, one for Librarian of the libraries and other for the users of the libraries. Three questionnaires were sent to the libraries. All the librarians were responded. Similarly, total 265 questionnaires were sent to the users of the different libraries and 218 were responded. Out of which 195 were selected for the study because of the problems in the questionnaire.

On the basis of the scope and objectives of the study and after reviewing the literature the following hypotheses have been formulated-

1 The growth of libraries is a continuous process.

2 Developments of the libraries take the form of expansion of physical facilities and services.

3 Budget is continuously increasing to cope up the demand of the libraries.

4 Libraries are maintaining their traditional services and collections even as they use technology in new way to deliver services and provide access to information on networks or through document delivery services.

5 The infrastructure facilities and information services available in all the libraries are not sufficient to meet the information needs of the users.

6 Electronic formats and online databases but surely and becoming an important part of collection of special libraries.

The above hypotheses were also tested through raising questionnaire, interview and observation method and it was found that the aspects which were included n the hypotheses have sound relation directly or indirectly to achieve objectives of the study.

The main features which emerged are: both staffs and users are facing problems such as problems related with technology paucity of funds, in-adequate infrastructure, Lack of well equipped library/Lab workshops for improvements, in -adequate seating arrangements, Networking problems libraries are not very well versed with the information technology use, lack of manpower training programs are also there.

The main conclusion that arises from the study is that the researcher felt that the development is the process and all the libraries are growing in terms of material and provision of services in the library and the users are also very much keen to use the services provided by the library manually and electronically.

The present study has broadly been divided into 6 chapters.

Chapter -1 contains introduction including the need, purpose, objectives and scope, utility, hypotheses and research methodology of the study.

Chapter -2 deals with the review of related literature. It describes the studies which have already done on the related areas.

Chapter -3 deals with the development of the libraries especially special libraries their status and services.

Chapter - 4 covers the libraries under study that is National Science Library, National Medical Library and Indian Agricultural Research Institute library, New Delhi. Their organisational set up, staff, present state and the different services provided by these libraries.

Chapter -5 contains the analysis of the data collected through questionnaire and other methods from the Librarian and users of the libraries.

Chapter -6 is intended to provide a general summary of the enquiry and its findings. It also presents the conclusion derived from the pertinent findings related to the objectives. Finally it offers some suggestions and recommendations to improve the services. At the end, the researcher has also suggested a few areas for further research.

At the end bibliography is given followed by appendices which contain questionnaire for the librarian and for the users of the libraries.

GROWTH DEVELOPMENT & SERVICES OF NATIONAL AGRICULTURAL LIBRARY, NEW DELHI, NATIONAL MEDICAL LIBRARY, NEW DELHI, NATIONAL SCIENCE LIBRARY, NEW DELHI: A COMPARATIVE STUDY

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

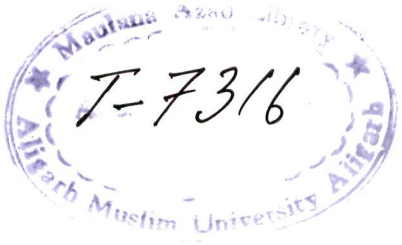
LIBRARY & INFORMATION SCIENCE

BY

NISHAT FATIMA

DEPARTMENT OF LIBRARY & INFORMATION SCIENCE
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2009



Dedicated

To

My Family

CONTENTS

Acknowledgement

In this world no task can be accomplished without the help of the creator of this universe. I am Thankful to The Almighty.

Words seems to be inadequate for the immense appreciation and gratitude I owe to my teacher and colleague Mr. S. Mustafa K.Q.Zaidi, Chairman Department of Library and Information Science, AMU, Aligarh. He has been a guiding height in the moments of darkness and pillar of strength in troubled times and has constantly extended encouragements to me throughout this study.

I gratefully thank to first my teacher and then my colleague Prof. Shabahat Husain Sahab without whose encouragements and support this research would have been impossible.

I am also thankful for all my colleagues Dr. Naushad Ali P.M., Dr. (Ms.) Sudharma Haridasan, Dr. M. Masoom Raza and Dr. Mehtab Alam Ansari for their help and cooperation.

I also wish to thank Prof. J.L. Sardana (Retired) Delhi University, for his guidance and support. His guidance has been of great value in this study.

Thanks are also due to my family especially my husband Dr. S. Ali Nawaz Zaidi, my In-Laws and whole family without their help, cooperation,

encouragement and understanding it would have been impossible for me to finish this work.

Proudly acknowledge my brother's help and also my Parents and all family members for their loving support and they helped a lot academically and otherwise during my Ph.D.

I would like to put on record my deep appreciation to Dr. Habibur Rahman, Mr. Naved Ahmad, Mr. Akhtar, Mr. Riaz Abbas, Mr. Nasaruddin, Mr. Zahid, Mr. Gulrez, Mr. Shariq and all such persons whose names have not been mentioned here but they have helped me in one way or the other.

Last but not the least I owe my loving thanks to my son and daughter. They have lost a lot due to my research.

(Nishat Fatima)

LIST OF TABLES: PART-1

...

LIST OF TABLES: PART-2

LIST OF GRAPHS

LIST OF ABBREVIATIONS

AACR	Anglo American Cataloguing Rule
AAU	Assam Agricultural University
AD	Anno Domini
AGRIS	Agricultural information System
AKI	Agricultural Knowledge Initiative
ALA	American Library Association
ALIO	Assistant Library & Information Officer
ARIST	Annual Review of Information Science and Technology
ARL	Association of Research Libraries
ARU	Arunachal University
AU	Assam University
A-V	Audio visual
AVRDC	Asian Vegetable Research and Development Taiwan
BBS	Bulletin Board Service
BC	Before Christ
BNB	British National Bibliography
CAKIS	Chemical Abstracts Keyword Index Service
CALIBNET	Calcutta Library Network
CAP	Central Acquisition of Periodicals

CAPS	Contents Abstracts and Photocopies Service
CAS	Chemical Abstract Service
CAS	Current Awareness Service
CC	Colon Classification
CCC	Classified Catalogue Code
CD	Compact Disk
CD ROM	Compact Disc Read Only Memory
CDRI	central drug Research Institute
CDS/ISIS	Computerized Documentation System/Integrated Set for Information Systems
CENL	Conference of European National Librarians
CENL	Conference of European National Libraries
CFTRI	Central Food Science and Technology Research Institute
COM	Computer Output Microform
COPSAT	Contents of Periodical in Science & Technology
CPL	Calcutta Public Library
CPU	Central Processing Unit
CPWD	Control Public Works, Department India
CRL	Central Reference Library
CRR	Curzon Reading Room
DB	Delivery of Books

DDC	Dewey Decimal Classification
DDS	Document Delivery Service
DESIDOC	Defense Scientific Information and Documentation Centre
DEVSIS	Development Sciences Information System
DGHS	Directorate General of Health Services
DPL	Delhi Public Library
DRDE	Defence Research and Development Establishment India
DRDO	Defense Research Development Organization
DRM	Digital Right Management
DTD	Document Type Description
DTP	Desktop Publishing
EFC	Equipment Fund Committee
FAQ	Frequently Asked Questions
FM	Faculty Member
FSTA	Food Science and Technology Abstracts
GOI	Government of India
HE	His Excellency
HTML	HyperText Markup Language
IASLIC	Indian Association of Special Libraries and Information Centre
IATLIS	Indian Association of Teachers of Library & Information Science
Ibid	Ibidem

ICMR	Indian Council of Medical Research
ICONLIS	International Conference on National Library Services
ICSSR	Indian Council of Social Science Research
ICT	Information and Communication Technology
IDRC	International Development Research Center
IDRC	International Development Research Centre
IFLA	International Federation of Library Associations and Institutions
IIB	International Institute of Bibliography
IIM	Indian Institute of Management
IIRS	Indian Institute of Remote Sensing
IISc.	Indian Institute of Science
IIT	Indian Institute of Technology
ILA	Indian Library Association
ILO	International labour Organization
INB	Indian National Bibliography
INFLIBNET	Information and Library Network
INIS	International Nuclear Information System
INMARC	India Machine Readable Cataloguing
ISA	Indian Science Abstracts
ISBD	International Standard Bibliographic Description
ISBN	International Standard Book Number

ISDS	International Serials Data System
ISI	Indian Statistical Institute
ISO	International Standards Organization
ISRO	Indian Space Research Organization
ISSN	International Standard Serial Number
IVRI	Indian Vetinary Research Institute
JMI	Jamia Millia Islamia
JNUL	Jawaharlal Nehru University Library
KBL	Khuda Bakhsh Library
LA	Library Association
LC	Library of Congress
LCC	Library of Congress Classification
ICHUR	Indian Council of Humanities Research
LCMARC	Library of Congress Machine Readable Cataloguing
LCSH	Library of Congress Subject Heading
LIA	Library and Information Assistant
LIO	Library and Information Officer
LIS	Library and Information Science
LISA	Library and Information Science Abstract
M.Phil	Master of Philosophy
MARC	Machine Readable Catalogue

MEDLARS	Medical Literature Analysis and Retrieval System
MINISIS	Minicomputer Integrated Set of Information System
MPE	Multiprogramming Executive
MU	Manipur University
NAL	National agricultural Library
NARD	National Agricultural Research Database
NARS	National Agricultural Research System
NASSDOC	National Social Science Documentation Centre
NCERT	National Council of Educational Research and Training
NCIMDIL	National Conference on Information Management in Digital Library
NIC	National Informatics Centre
NISCAIR	National Institute of Science Communication and Information Resources
NISCOM	National Institute of Science Communication
NISH	National Information System in Humanities
NISSAT	National Information System in Science and Technology
NISTADS	National Institute of Science Technology and Development Studies
NIT	National Institute of Technology
NLC	National Library Calcutta
NLK	National Library Kolkata
NLVS	National Library of Veterinary Sciences

NSDL	National Science Digital Library
NUA	Nigerian Universities of Agriculture
OAI	Open Access Initiative
OCLC	Ohio College Library Centre; Online Computer Library Centre
Op.cit	Opera citato
OPAC	Online Public Access Catalogue
OSI	Open Systems Interconnection
PC	Personal Computer
PDF	Portable Document Format
PG	Post Graduate
Ph.D.	Doctor of Philosophy
PLIO	Principal Library and Information Officer
POPIN	Population Information Network
PUBMED	Public/Publisher MEDLINE
RCC	Regional Computer Centre
RECON	Retro Conversion
RRRLF	Raja Rammohan Roy Library Foundation
RS	Research Scholar
SDI	Selective Dissemination of Information
SENDOC	Small Enterprises National Documentation Centre
SM	Squire Meter

SRELS	Sarada Ranganathan Endowment for Library Science
TCP/IP	Transmission Control Protocol/Internet Protocol
TERI	Tata Energy Research Institute
TIET	Thapar Institute of Engineering & Technology
TKDL	Traditional Knowledge Digital Library
TKRC	Traditional Knowledge Resource Classification
TQM	Total Quality Management
TU	Tripura University
TZU	Tezpur University
UAE	United Arab Emirates
UAP	Universal Availability of Publications
UAU	United Arab Emirates University
UBC	Universal Bibliographical Control
UDC	Universal Decimal Classification
UG	Under Graduate
UGC	University Grand Commission
UK	United Kingdom
UKMARC	United Kingdom Machine Readable Catalogue
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIMARC	Universal Machine Readable Catalogue

UNISIST	United Nations Information System in Science and Technology
UP	Uttar Pradesh
URL	Uniform Resource Locator/Universal Resource Locator
USA	United States of America
USMARC	United States Machine Readable Catalogue
VPP	Value Payable Post
XML	Extensible Markup Language
ZBBS	Zero Based Budgeting System

Chapter-1

Introductory Background and Framework of the Study

CHAPTER 1

INTRODUCTORY BACKGROUND AND FRAMEWORK OF THE STUDY

1.1 Introduction

Libraries have existed for more than a thousand years. In ancient period, libraries were maintained privately by people, rulers and scholars. They comprised of personal or semi-personal collections. Many were attached to temples or legal houses. They specialized in religious studies and law respectively but were never referred to as special libraries. The genesis of special library is difficult to trace, however the evidence of the libraries can be seen after the World War I. The later part of the 20th century saw a significant awakening. Since independence in 1947, there has a steady expansion of research activities due to the establishment of scientific institution, laboratories, emergence of academic and learned society etc. Special libraries began to be recognized slowly in the later part of 19th century. Twentieth century has been called as 'an era of special library'. However, the concept of special library, as we know it today started appearing during twentieth century, particularly after World War II. The history of special libraries in India is interrelated with the growth of research

institutions which stimulated the setting up of such libraries in the country.

As business and industries in general began to grow, such organizations increased in number, size and complexity. Later on, the establishment of scientific and research institutions such as Council of Scientific and Industrial Research (CSIR), Defense Research and Development Organization (DRDO), Indian Council of Agricultural Research (IARI), Indian Council of Medical Research (ICMR), R&D laboratories and other such organizations, paved the way for the establishment of special libraries. With the emergence of all such organization, R&D activities were increasing and information demands were becoming highly specialized.

Consistent efforts have been made and enough literature has been produced on special libraries, but no single distinct definition has emerged which can be accepted fully. Rather, it became complicated because of the large number of definitions. However, the definitions of special libraries began to crystallize only after the turn of the twentieth century but the emphasis varies from one definition to other which would be evident from the following definitions.

Johnson[1] considered 'service' as the most important criterion of a special library, and specifically ranked its service as more important than its subject matter. According to Ridley[2] 'subject' is most important

criterion. He said that a special library means, "A collection of information covering a specific field which may be administered by a special staff and for service of a limited clientele". White[3] has emphasized upon 'specialized clientele and materials'. He said that a special library deals with a specialized clientele or specialized materials or with a combination of both. According to Astall[4] "Special libraries serve the specialist clientele, located within a single establishment or a group, and all are engaged in working towards one common purpose." The emphasize here is on 'special clientele' and 'common purpose' of the organization.

The following definitions given by ISO and UNESCO are quite comprehensive.

According to International Organization for Standardization[5], Special libraries are "those maintained by an association, government, parliament research institution (excluding university), learned society, professional association, museum, business firm, industrial enterprise, chamber of commerce, etc. or specific field or subject, e.g. natural sciences, social sciences, agriculture, chemistry, medicine, economics, engineering law and history". Emphasize here is on 'parent organizations' and 'specific subject'. According to UNESCO[6] "These libraries may be attached to various bodies, such as parliament or a government department, a scientific or other research institution, a

learned society, professional association, museum industrial association, chamber of commerce, etc....Special libraries are primarily designed to serve a limited number of experts, scientists, research workers, etc, and not coming within any of the categories- national libraries, university libraries, school libraries." This definition is more clear and comprehensive, as it includes organizations, serving a limited number of special clientele, and excludes 'so-called special libraries', belonging to other types (national, university, school) of libraries. This definition should be more relevant and acceptable to us.

1.2 Significance of the Study:

Libraries have been considered and accepted as heart and soul of the organization. Because of the multidisciplinary nature of research, the role of a library in R & D organization is more important. It is almost impossible to quantify the information output in any field of research and its related areas. Hence the role of the libraries in acquiring, organizing and disseminating the required information to their patrons cannot be overestimated.

The R&D special libraries in the country are better equipped because the investments in these libraries are much larger than other libraries. Most of the libraries are equipped with modern facilities for handling & providing information to the users. Therefore, the growth of the libraries is quite commendable and they have all the characteristics of a

model organization where facilities of all types are present. The present study will help to find out the level of growth and development of these libraries in terms of facilities. In addition to the routine library services, they offer modern IT based services to their users with ever-dwindling financial resources and facilities.

It is also essential to know the utilization level of modern services by the users of these libraries because every year these libraries are spending a huge amount for this purpose. So the investigator decided to conduct the study for measuring the growth, development and use of the libraries.

The literature review illustrates/explains/shows that few studies have been undertaken but not of these libraries. A study of the growth and development of these libraries as a whole has not been conducted so far. The literature review illustrates that how many similar studies have been conducted so far and also shows that the studies should have not been conducted on this topic.

In keeping with these factors, the present study has been aimed to study the growth, development and use of libraries.

1.3 Objectives of the study

This study aimed at and tried to achieve the following objectives.

1. To trace the historical development and growth of libraries.

2. To trace the growth and development in terms of collection and budget.
3. To trace the current status of the libraries in terms of resources and services.
4. To identify the weakness of the libraries.
5. To determine the extent of use of library resources and services and ascertain users' priority for change in services.
6. To find out the factors for slow development of libraries.
7. To make suggestions for better growth, development and services of the libraries.

1.4 The scope of the study:

The scope of the study consists of special libraries of various subjects i.e. Medical, Science, and Agriculture. These libraries were selected out of different libraries existing in Delhi on the basis of the criterion that they are basically affiliated to the special subject areas, they are also acting as national libraries in their subject area and are also under Government control. Delhi being a metropolitan city and the capital of the country has libraries of all disciplines which are very rich in terms of their collection and resources, and leaders in terms of IT applications. The study excludes public, private and university libraries in Delhi. The goal of the study is limited with growth,

development and services available in the libraries. That is why three libraries of different subjects have been taken for study. The libraries are:

- National Science Library, New Delhi.
- National Medical Library, New Delhi.
- Indian Agricultural Research Institute Library, New Delhi.

1.5 Hypotheses

Following hypotheses have been formulated and are proposed to be tested.

1. The growth of libraries is a continuous process.
2. Budget is continuously increasing to cope up the demand of the libraries.
3. Developments of the libraries take the form of expansion of physical facilities and services.
4. Libraries are maintaining their traditional services and collections even as they use technology in new ways to deliver services and provide access to information on networks or through document delivery services.

5. The infrastructure facilities and information services available in all the libraries are not sufficient to meet the information needs of the users.

6. Electronic formats and online databases slowly but surely are becoming an important part of collection of special libraries.

1.6 Research Methodology

There are various research methods such as, historical, survey, experimental etc. This study is based upon survey method. Survey method is used to study growth, development and services of three select National Subject Libraries located in Delhi.

1.6.1 Sample and size of the Population:

The population comprises research scholars, faculty members and other students in 3 select libraries namely IARI, NML and NSL located in Delhi. There were total number of 800 users in IARI and 550 users in NML while as NSL has total population of 50 users. The population investigated was 195 which included male as well as female respondents in IARI, NML and NSL.

1.6.2 Data Collection Method:

Large numbers of data collection techniques are available such as questionnaire, schedule, interviews, observations, socio metric, document review, psychological test etc. The questionnaire, interview,

observations and document review techniques has been used to collect the data.

1.6.2.1 Questionnaire:

To collect the necessary data for the present study, two sets of questionnaires were designed. One for each Librarian/Head of the Library and another for users of the library. Major formatting in the construction of the questionnaire was made to obtain information on growth development and use of the National Science Library, National Medical Library, Indian Agricultural Research Institute Library these all are located in New Delhi.

In order to get maximum information on present study each question is formulated on the basis of the literature reviewed. It has been recognized on the most applicable and reliable instrument for measuring the current status of libraries.

1.6.2.2 Interview method:

Interview is an interpersonal face to face conversation in which the interviewer asks questions pertinent to the research, and respondent answers the questions. It is a very effective tool to collect the data from the people because it ensures better responses as compared to other methods of data collection. Interview also enriches the qualitative data from questionnaire. Therefore, both structured and unstructured interviews have been conducted with the various categories of users on

various aspects i.e. document collection, library and staff, services of the library and their suggestions to improve the library services.

The questionnaire method provides a sufficient structure to facilitate comparative analysis providing clear linkage to the quantitative survey, while providing the interviewer with the opportunity to clarify any question of which the respondent is unclear. The interview technique also helped to understand the problems and to find out the possible solutions of the same to achieve the objectives of the study.

1.6.2.3 Observation:

Observation is a well established technique for collection of data. The observation method is normally employed in measuring, testing, characterizing human behavior. In order to fully asses current library practices, the researcher could not rely solely upon interviews or questionnaire or existing data and so a variety of observation and monitoring techniques were employed. On visiting libraries, it was observed that in a few libraries, there is a wide gap of information provided by the librarians in the areas of availability of infrastructure facilities, use of the collection, both printed and electronic, application of IT in library, problems faced etc. This technique helped the researcher to make the study more scientific.

1.6.2.4 Document review:

The investigator also consulted various printed and electronic document such as annual reports, pamphlets, brochures, CD-ROMs, concerned web-sites and other records of the libraries whenever is required.

1.7 Pilot Study:

After designing the questionnaire a pilot study was conducted in order to test the questionnaire to resolve any problem, which might arise concerning the use of these instruments.

The purpose of the pilot study is to test validity of the questionnaire both as a data collection instrument and statistical measurement device. At this stage it was intended to make the questionnaire easily understandable to the people and to eliminate the probability of misunderstanding, confusions and bias. A group of users, and librarians were agreed to fill in the questionnaire and being interviewed for testing purposes.

As a result of the pre test it was decided to utilize more structured responses, and to record some of the questions in order to improve their clarity.

Separate questionnaire was made for librarians and users. The questionnaire designed for librarians consisting of a number of questions in definite order and format. viz. Library collection, printed as well as electronic, budget, personnel, membership, management of

various activities of the library with special reference to application of S & T, information activities available, information about electronic information services and various training programmes and in relation to manpower needs of the libraries etc. The format of the questionnaire has been given in appendix 1.

The questionnaire designed for library users is also based on structured pattern and is in definite format viz. usefulness of the material, usefulness of the services, purpose of visit to the library. Impact of IT on management, printed sources, problem faced while using IT based services. How to improve services? etc. The questionnaire for library users has been appended as appendix II.

1.8.1 Distribution of Questionnaire:

Investigator visited select libraries and approached the librarians/head of the libraries and users for the purpose of collecting the data. Well structured questionnaires were distributed among the librarians/head of the libraries and library users. Duly filled in questionnaires were collected back from the respondents. Several trips were made by the investigator to get more filled questionnaires and to achieve more response rate.

The questionnaires were distributed to each Librarian /Head of libraries of IARI, NML, NSL, New Delhi and duly filled in questionnaire were received.

The following table shows the distribution of questionnaire to the users of the select libraries.

Libraries under study	Questionnaire administered	Questionnaire received	Questionnaire selected
IARI (800)	**120 (15.00)**	**92 (76.67)**	**80 (66.67)**
NML (550)	**100 (18.18)**	**84 (84.00)**	**75 (75.00)**
NSL(50)	**45 (90.00)**	**42 (84.00)**	**40 (80.00)**

(Percentage within parentheses)

The questionnaires were also distributed among the users. A total number of 120 questionnaires were distributed in IARI library, 100 questionnaires in NML and 45 questionnaires were administered in NSL. Out of 120 distributed questionnaires, 92 duly filled in questionnaire were received. Out of which 12 incomplete responses were rejected. In the NML 100 questionnaires were administered out of which 84 duly filled in questionnaires were collected back. Out of these 9 responses of questionnaires were unsatisfactory. In NSL a total number of 45 questionnaires were distributed. Out of which 42 questionnaires were received. In these questionnaires only 3 were incomplete.

Therefore, the investigator considered 80 questionnaires from IARI library, 75 questionnaires from NML, and 40 questionnaires from NSL selected for the study.

1.9 Sources of Data

The data for the study collected from primary sources of information such as journals/periodicals, prospectus, brochures, standards, monographs, reports, websites and responses received from the librarians/head of the libraries, staff and users. However, secondary and tertiary sources i.e. Text books, dictionaries, encyclopedias, yearbooks, directories were also consulted as per need of the study

1.10 Analysis and presentation of data:

The data collected through questionnaire, observation and informal interview are organized and tabulated by using statistical methods, tables and percentage. The table, chart and diagrams were generated by using MS-Excel software versions 2003.

References

1 Johnson, Ethel M (1915), "The special library and its problems", *Special libraries*, Vol. 6, p.158

2 Ridley, A. F. (1925), "Special libraries and information bureaux: their development and future in Great Britain", *Library association Record*, Vol. 3 No. 12, P. 243.

3 White, H. S. (1984), *Managing the special library: White plains*, New York: Knowledge Industry Publication.

4 Astall, Ronald (1966), *Special libraries and information bureaux*, London: Clive Bingley.

5 International Organization for Standardization (1982), *Information transfer*, Ed.2, Geneva: International Organization for Standardization

6 UNESCO (1958), "Needs of special libraries", *UNESCO bulletin for libraries*, Vol. 10 No.11-12, p. 254

Chapter-2

Growth and Development of Special Libraries in India

CHAPTER 2

GROWTH AND DEVELOPMENT OF SPECIAL LIBRARIES IN INDIA

The history of special libraries in India is interrelated with the growth of research Institutions, which stimulated the setting up of such libraries in the country. Scientific and industrial research was greatly neglected by the British. It was only after the First World War, with the formation of learned societies and establishment of research institutions, that research activities received an impetus. Since independence in. 1947, there has been a steady expansion of research activities due to the formation of scientific laboratories, installations, and organizations. In addition, there has been rapid industrialization. To meet the demand for improved library facilities, special libraries were set up.

Due to the efforts of Sir William Jones, a scholar and a judge of the Supreme Court, the Asiatic Society at Bengal was established in 1784. The society, "during, the first century of its existence provided a house for meetings, a library, and a collection of ancient coins and medals as well as archaeological, technological and geological Collections. The journal of the Royal Asiatic Society of Bengal (started in 1832) was the first periodical in India for dissemination of the results of the scientific work in the country."[1] This journal played an important role in the advancement of science in India. The

library attached to the society was established in1784 and is considered "the first library in modem India."[2]

A medical college was established in Calcutta in 1835. It provided training in physics, chemistry, botany, anatomy, and clinical subjects. The Museum of the Asiatic Society was set up in 1841 and the Indian Museum in 1856. These merged to form a new organization in 1916, the Zoological Survey of India.

The first engineering college was established in Roorkee in 1847, under the name of Sir Thomson College. Later on it was converted into an engineering university. Since 1818 the government had been employing geologists for the purpose of performing survey work. It was only in 1851 that the Geological Survey of India could be set up. The Meteorological Department of the Government of India came into being in 1875. Prior to it, meteorological observations and stations had been set up in Madras (1796), Calcutta (1824), and Bombay (1841).

The Survey of India was formed in 1878 and the Botanical Survey of India was founded in Calcutta in 1889.

The government established the Haffikine Institute in Bombay in 1899. Initially, it was meant to serve as a plague research laboratory, but later it developed into a leading center of research on preventive medicine.

According to T S Rajgopalan, and S I Islam,[3] there were thirty-five scientific libraries by the end of the nineteenth century. The resources developed very slowly. The literature published in western countries, especially in England

formed the major portion of the total collection. Due to lack of funds, the collections were inadequate.

The Indian Institute of Science, Bangalore, was founded by the Tatas in 1909 and is considered the first school of advanced research. It has played a pioneering role in advancing science in India. In 1913 the Indian Science Congress Association came into being. It is a leading organization of Indian scientists. The Indian Research Fund Association was formed in 1922 and has enjoyed a long and impressive history.

The Imperial Institute of Animal Husbandry and Dairying was established in Bangalore in 1923. In 1936 it was expanded and renamed the Imperial Dairy Institute. Subsequently, in 1955, the National Dairy Research Institute (NDRI)[4] came into being at Karnal. The institute at Bangalore was converted into a regional station. In addition, there is a regional station at Kalyani. The NDRI was conferred deemed university status by the UGC in 1969. It is fully supported by the Indian Council of Agricultural Research and functions as one of the National Institutes under its aegis.

The Indian Council of Agricultural Research (ICAR) was established in 1929 along with several associated committees for research.

The Indian Statistical Institute, Calcutta, came into being in 1932. This has been a landmark in advanced research. The Indian Industrial Research bureau was formed in 1934.

On January 3, 1935, the National Institute of Sciences of India was formed. In 1970 its name was changed to Indian National Science Academy (INSA). It is a coordinating body similar to the Royal Society of London. It is a premier scientific organization in India.

The Second World War provided a great impetus to the development of research activities. In 1942- the Council of Scientific and Industrial research (CSIR) was formed. This was a turning point in the-history of scientific research in India. Today the CSIR has a network of 43 national laboratories/institutes, 138 field stations/extension centers and industrial research associations spread all over the country to carry out research and development (R&D) in various areas and disciplines.[5] All these institutions have very good special libraries attached to them. CSIR established the Indian National Scientific Documentation Center (INSDOC) in 1952. INSOOC is a modern documentation center, well equipped and well qualified staff. It is a good example of a national documentation center in the field of science and technology, providing a vide rang of documentation services. The Atomic Energy Commission was setup in 1948. It is indeed a landmark. This was followed by the establishment of leading R&D organizations in the field of atomic research, such as Bhabha Atomic Research Centre, Trombay. Reactor Research Centre, Kalpakkam, and variable Energy cyclotron Centre, Calcutta, among others.

The Defence Science Organization was established in 1949. The year 1950 is quite-significant because many-important organizations were set up

including the National Chemical Laboratory, Pune; National Physical Laboratory, New Delhi; National Metallurgical Laboratory, Jamshedpur, Central Fuel Research Institute, Jadavpur; and Central Food Technological Research Institute, Mysore.

The Indian Research Fund Association was formed in 1922. It was renamed Indian Council of Medical Research in 1950. Other leading organizations established in the 1950s.[6] included the Central Drug Research Institute, Lucknow (1951); Central Electro-Chemical Research Institute, Karaikudi (1953); Central Leather Research Institute, Madras (1953); Central Building Research Institute, Roorkee (1953); and Central Salt Research Institute, Jaipur (1954).

The Indian Association for Special Libraries and Information Centres (IASL1C) was established in 1955 along the lines of Aslib of the United Kingdom. Since 1955 it has played an important role in the development of special libraries.

Formation of the Indian Council of Social Science Research (ICSSR) in 1969 is a landmark in the field of social sciences. The ICSSR set up the Social Science Documentation Centre in 1970, which was renamed in 1986 the National Social Science Documentation-Centre (NASSDOC). The NASSDOC has played an active role in carrying out documentation} activities in the field of socials sciences.

With the assistance of UNESCO, the National Information System in Science and Technology (NISSAT) was launched in September 1977. NISSAT has given a push to special libraries, through establishment of sectoral information centers and the regional information centers.

As illustrated by the examples above, special libraries are primarily a twenti-eth-century phenomenon in India. Although a handful existed in the nineteenth century. The majority of these libraries came into being only during the last five decades or so. They are largely concentrated in major towns like Bangalore, Calcutta, Delhi, Hyderabad, Mumbai, and Madras. On the whole, special libraries have succeeded in building a better image than academic and public libraries. They have shown initiative and done better than other types of libraries. They have been forerunners in computer application in Indian libraries. India has succeeded in developing some excellent libraries in different fields of specialization which are comparable with libraries in the developed countries.

2.1 PRESENT STATUS

2.1.1 Humanities

India has a large number of libraries in the field of the humanities, forming a rich source of information for research scholars. Very often in recent years due to lack of funds, these are not in a position to build up adequate collections to meet the needs of their users. For the same reason, they have

also been slow in the matter of computerization. A brief description about the leading libraries are as follows.

- Asiatic Society Calcutta
- The Bhandarkar Oriental Research Institute Library, Pune
- The Central Institute of English and Foreign Languages, Library Hyderabad
- The Central Institute of Indian Languages (CIIL) Mysore
- The Dar-ul-Uloom Deoband Library, Deoband
- The Indira Gandhi National Centre for Arts (IGNCA), New Delhi
- The Khuda Bakhss Oriental Public Library, Patna
- The National Archives of India (NAI), New Delhi
- The National Library, Calcutta
- The Rampur Raza Library, Rampur
- The Sahitya Academy, New Delhi
- The Thanjavur Maharaja Serfoji saraswati Mahal Library

2.1.2 Indology

Indology is a vast subject, which covers all about India covering its languages, literature, history, philosophy, religion, customs, and fine arts. By and large Indology libraries are in bad shape due lack of funds and proper management. Some are fighting to survive.

Bibliographic control for manuscripts, which is considered the backbone of research in Indology, is rather inadequate. Manuscript collections in the humanities are scattered in different places all over the country. They are found in academic, special, and public libraries; Jain Bhandaras; maths (monasteries); temples; gurudwaras; mosques, madrassas, and so on. It is estimated that there are over three million manuscripts. To strengthen bibliographical services, there is an urgent need to bring out a comprehensive directory of indological collections found scattered all over the country and also abroad. At present there is no national policy.

The situation requires the setting up of the Indian Council of Humanities Research (ICHUR) along the lines of the Indian Council of Social Science Research (ICSSR).

- Adyar Sanskrit Library, Madras
- Akhil Bharatiya Sanskrit Parishad Library, Lucknow
- Asiatic Society Library, Bombay
- Asiatic Society Library, Calcutta
- Bhandarkar Oriental Research Institute, Pune
- Bharatiya Vidya Bhawan Library, Bombay
- Bihar Research Society Library, Patna
- Central Institute of Indian Languages Library, New Delhi
- Central Sanskrit Vidya Peeth, Allahabad, T urupathi, Delhi

- Government Oriental Manuscript Library, Madras
- Idira Gandhi National Centre for the Arts, New Delhi
- K. P. Jayaswal Research Institute, Patna
- Khuda Baksh Oriental Public Library, Patna
- Mithila Sanskrit Shodha Sansthana, Darbhanga
- Raghunath Temple Library, Jammu
- Raza Rampur Library, Rampur
- Saraswati Bhawan Library, Varanasi

2.1.3 Social Sciences

It was only after the Second World War that the Government of India realized the importance of research in the social sciences. Since 1947 steady expansion has taken place in the field of research activities. There are estimated to be six hundred Social science libraries in India. An average social science library has a collection of twenty-five thousand to thirty thousand volumes and subscribes to around two hundred current journals.[7] These are attached to universities, government departments, and research institutions and are mainly concentrated in New Delhi.

A list of leading social science libraries are as follows.

- The A. N. Sinha Institute of Social Sciences (1958)
- The Gokhle Institute of Politics and Economics Library, Pune

- The Indian Council of World Affairs Library (1943)
- The Indian Institute of Mass Communication Library, New Delhi (1965)
- Te Indian Institute of Public Administration, New Delhi (1954)
- The Institute of Economic Growth Library
- The National Council of Applied Economic Research, New Delhi (1956)[8]
- The National Institute of Public Finance and Policy Library, New Delhi
- The Nehru Memorial Museum and Library, New Delhi
- The Parliament Library, New Delhi, 1921
- The Ratan Tata Library (RTL) is a part of the Delhi University Library System.
- The Sardar Patel Institute of Economics and Social Research Library, Ahmedabad (1969)
- The Tata Institute of Social Sciences Library, Mumbai, (1936)

2.1.4 Science

A few scientific libraries was established in the nineteenth century. The Second World War gave impetus to pushing R&D activities in the country. As a consequence, in 1942 the Council of Scientific and Industrial Research (CSIR) was formed. It has proved to be a turning point. The CSIR set up a chain of national laboratories, field stations/extension centers/regional

centers. Other organizations that have played an important role include the Defence Research and Development organization (DRDO), the Indian Space Research Organization (ISRO), the Atomic Energy Commission, the Electronics Commission, the Anthropological Survey of India, the Botanical Survey of India, the Geological Survey of India, and the Zoological Survey of India. It may be noted that these are government supported organizations. Non government agencies have not given much attention to scientific research. The number of science and technology libraries is estimated to be one thousand, with an average library having thirty to forty thousand volumes, adding about five hundred volumes per year, receiving three hundred to five hundred current periodicals, and having staff strength of ten to fifteen, serving fifty to five hundred specialist users.[9]

A list of some of the leading scientific libraries are as follows.

- The Anthropological. Survey of India Library, Calcutta, (1946)
- The Bhabha Atomic Research Centre, Library and Information Services, Trombay, (1954)
- The Botanical Survey of India Library, Calcutta, (1911)
- The Bureau of Indian Standards, New Delhi, (1947)
- The Forest Research Institute and College Library, Dehradun (1906)
- The Geological Survey of India Library, Calcutta,(1856)
- The Indian Institute of Science Library, Bangalore, (1911)

- The Indian National Science Academy (INSA) Library, New Delhi
- The Indian Space Research Organization, Space Applications Centre Library, Ahmedabad, (1973)
- The Indian Space Research Organization, Satellite Centre Library, Bangalore, 1972
- The Indian Statistical Institute Library Calcutta, (1931)
- The National Aeronautical Laboratory, Library and Information Centre for Aeronautics, Bangalore, (1960)
- The National Chemical Laboratory, Library and Documentation Services, Pune,(1949)
- The National Physical Laboratory Library, New Delhi, (1950)
- The Physical Research Laboratory Library, Ahmedabad, (1948)
- The Tata Institute of Fundamental Research Library (1945)
- The Wildlife Institute of India Library, Dehradun
- The Zoological Survey of India Library, Calcutta, (1916)

2.1.5 Agriculture

Agriculture was given by the Government, when the Department of Agriculture was opened in April, 1873. The Britishers, in the beginning, opened veterinary institutions for taking care of their military farms and animals e.g. College of Veterinary Science, Hissar (1882), and IVRI, Izatnagar (1889), and Mukteswar (1893). Later on Imperial Agricultural Research

Institute (IARI) (1905) at Pusa, Bihar, five Government agricultural colleges (1906) at Coimbatore, Kanpur, Lyallpur, Akola and Sabhaur; and agricultural Institute (1910) at Naini were opened. Up to 1947 there were only 25 agricultural colleges and 2 research institutes, namely IARI and IVRI. [10]

Today there are 61 ICAR Institutes (4 deemed universities, 42 institutes, 4 national bureaus, 10 project directorates, 1 National Research Centre in Agriculture for Women) and 28 state agricultural universities and 172 agricultural colleges. This shows the tremendous progress that has taken place during the last fifty years or so. [11]

Agricultural research in India is well organized, having necessary infrastructure and well equipped with labs, libraries, manpower, etc. It also has the largest scientific manpower. It is estimated that the country today has over 60,000 scientists under various government and non-government organizations engaged in active research, excluding technical, administrative and supporting personnel. The scientific manpower-management staff, scientists and teachers engaged in research, education & extension work in agricultural sector have been estimated to be about 31,000. All 28 SAUs (State Agricultural Universities) comprising 172 agricultural colleges and 4 deemed universities under ICAR annually enroll about 16,500 students at various level courses under human resource development programmes. [12]

The Indian Agricultural Research Institute (IARI) Library has the largest collection in the field of agriculture and is the apex library in the field of agriculture.

India is participating in AGRIS and CARIS as an input center. The Agriculture Research Information Centre of ICAR feeds data toAGRIS and CARIS databases. ICAR, in collaboration with the International Services for National Agricultural Research (ISNAR), The Hague, is developing a computer network to link more than twenty-five thousand scientists and managers for improving management of information for the National Agricultural Research System (NARS)

2.1.6 Health Science

There are more than 744 health science libraries [13] in existence that cover such diverse areas as allopathy, homeopathy, unani, ayurveda, yoga, and naturopathy. These libraries provide various information services to over ten to fifteen million health workers of different categories spread over fourteen thousand institutions, in both modern as well as indigenous system of health care.

Steps have been taken to develop the Health Literature Library and Information Service (HELLIS) Network. Under the NISSAT plan, two sectoral information centers in health sciences related fields have been developed. These are NICDAP (National Information Centre for Drugs and Phamaceutical) at CDRI, Lucknow, and NICFOS (National Information Centre for Food Science and Technology) at CFTRI, Mysore. CFTRI feeds data to Food Science and Technology Abstracts (FSTA).

There are three leading libraries in the field of health sciences, located in New Delhi. These are the National Library of Medicine, the All India Institute of Medical Sciences Library and the National Documentation Centre of National Institute of Health and Family Welfare.

The National Medical Library is the apex library in the field of health sciences. It serves national focal point of the HELLIS Network (a regional network of the Health Literature Library and Information Service in South-East Asia).

The Library of the All India Institute of Medical Sciences has a rich collection of literature in the field of biomedical and health sciences. It is well equipped with photocopiers, microfilm/microfiche reader-printer, audiovisual aids, e-mail, computers, CD-ROM drives, and CD-Networking. The library also possesses CD-Net System, which allows searching of desired information with speed and efficiency. It has the capacity to run more than one CD-ROM disk simultaneously in the multi user environment. The library also has automated its housekeeping activities (such as acquisition of books, serial control, etc.) using the LibSys software package. The library has a strong database search facility. Some of the databases available in the library include MEDLINE, POPLINE, CANCER, PSYCHIATRY, LISA, World Atlas, Encyclopedia of Library and Information Science, and so forth. These databases are being used extensively by the users for retrieving information.

The National Documentation Centre of National Institute of Health and Family Welfare was established in 1977. It is a national focal point for the primary health care network in India. It also acts as the national focal point for the

Population Information Network (POPIN). It provides CAS, SOI, reprographic, and micrographic services. It has created a bibliographic database using CDS/ISIS. The library activities have been computerized. The library has built up an excellent collection.

2.2 NATIONAL SUBJECT LIBRARIES

There are a number of national subject libraries in India that have grown out of departmental libraries. Sponsored and maintained by the government of India or councils set up by it, to serve the specific subject needs. The National Science Library, New Delhi, is a part of the National Institute of Science Communication and Information Resources (NISCAIR). It was modeled on the National Science Library of the United Kingdom before its merger into the British Library. The National Medical Library (NML), New Delhi, grew out of the departmental library of Ministry of Health and Family Welfare. The Indian Agricultural Research Institute Library is a library of the Indian Council of Agricultural Research. The National Medical Library, New Delhi, and the Indian Agricultural Research Institute Library, New Delhi, are modeled on the National Medical Library and National Agricultural Library in the United States. Indian national subject libraries are considered national due to their nature of collection and kinds of services; however, they do not perform other essential functions that are expected from national libraries.

2.2.1 The National Science Library

The Indian National Scientific Documentation Centre (INSDOC) was established in 1952. During the first phase, INSDOC did not build up a library of its own; instead, the Library of National Physical Laboratory (NPL) served as a base for the operation of its services. During the second phase in 1964, the National Science Library was conceived as an integral part of INSDOC. It was meant to serve as a cooperative acquisition facility for building up a balanced collection relevant to the requirements of the country. It would survey the holdings of scientific institutions and supplement the lacunae in their collection by itself acquiring them. As far as possible duplication would be avoided. It would also make a special effort to collect books by Indian authors and books and periodicals in Indian languages. In addition to scientific periodicals including cover-to-cover translated periodicals, the National Science Library will also acquire other scientific publications like reference works, research reports, conference proceedings, theses, state-of-art publications, certain costly publications, etc.[14]

The National Science Library has built up a collection with emphasis as just mentioned. The acquisition policy is based on the concept of resource sharing within the scientific and technical libraries in the country. The library has more than 136,000 bound volumes of books and periodicals. Currently, it receives more than thirty-five hundred serial titles both in hard copy and electronic form. The library has a rich collection of Russian S& T documents.[15]

The different activities of the National Science Library have been computerized. In-house operations (such as circulation control, cataloguing, and serial control) have been computerized on the basis of their own developed software CATMAN. For other purposes, various software packages are being used. These include CDS/ISIS, version. 2.3; dBase III and dBase IV; LibSys, and CATMAN. The following services/products are being produced by the National Science Library. [16]

- Recent additions to the Library: This is being brought out using CDS/ISIS version 2.3 (software developed by UNESCO for libraries)
- National Science Library catalog online
- Contents Abstracts and Photocopies Service (CAPS): Under this service, one can get on a yearly subscription the contents of forty journals selected by one from five thousand core Indian and foreign periodicals.
- Express CAPS: Documentation services, including document copy supply service, are being provided based on five hundred foreign periodicals on CD-ROM.
- Central Acquisition of Periodicals (CAP): The National Science Library assists CSIR laboratories in the acquisition of foreign scientific and technical periodicals under the CAP project.
- Standing order abstracts service
- Chemical abstracts keyword index service (CAKIS)

- International Serials Data System (ISDS); The ISDS center has been in operation since 1986 at INSDOC.1t assigns International Standard Serial Number (ISSN) to Indian serials.

2.2.2 The National Medical Library

A departmental library was established in 1926 under the director-general of Indian Medical Services. In 1961 this library was named Central Medical Library, and it was designated the National Medical Library (NML) on April 7 , 1966. The functions of NML are:

- The procurement of the costly and infrequently available publications and manuscripts to supplement the library collections of various biomedical institutions of India
- To prepare and maintain up-to-date union catalogs of medical libraries in the country
- To develop documentation services in the medical disciplines
- To prepare bibliographies in anticipation of or on demand
- To introduce computer application toward the information work and services of the NML
- To function as a focal point for collecting, processing and supplying of biomedical information generated within and outside the country

The NML serves as a national library. It has a fairly large collection of books and periodicals and serves all categories of users in the field of health

sciences. It uses LibSys for the cataloguing and acquisition of books, serial control and information storage and retrieval. It uses CDS/ISIS for indexing services.

The NML serves as a national focal point of the HELLIS Network. As a coordinator of the network, it has supplied microcomputers, CD-ROM drives, MEDLINE databases, and so forth to its various regional and resource libraries in the country.

It brings out the following bibliographical services:

- Library Bulletin (bimonthly)
- Selective Dissemination of Information (fortnightly, 1982-)
- Index to Indian Medical Periodicals (quarterly, 1959-)
- Highlights from Current Health Literature (monthly)
- Chetna (quarterly, 1982-)
- ADISDOC
- Union Catalogue of Medical Periodicals in India
- Directory of Medical Libraries in India

The NML also provides a literature search service using MEDLINE and POPLINE databases on CD-ROM.

2.2.3 Indian Agricultural Research Institute Library

The Indian Agricultural Research Institute Library (IARI) is a focal point for collecting, organizing and disseminating of agro-biological information generated within the country and abroad. It may be regarded as a national library in the field of agriculture, though it is not designated as such. It is one of the largest and finest agro biological-libraries in Southeast Asia, having about 3.5 lakh volumes, and receives 4,800 current periodicals. It is a depository of the Food and Agricultural Organization (FAG), International Development Research Center (IDRC), and , Asian Vegetable Research and Development (Taiwan) (AVRDC), among others, as well as a depository for CGIAR Institute's publications. The library has created an Indian agriculture database, the Bibliography of Indian Agriculture, created in 1944 in card form, and it has 161,500 references. [17]

The IARI library has the following facilities:

- Online Public Access Catalogue (OPAC).
- A database in machine-readable form of forty thousand records consisting of books, special research bulletins, theses, and so on.
- CD-ROM databases from AGRIS (FAO); AGRICOLA; CAB CDS; CAB Spectrum CDs; and Derwent Biotechnology Abstracts.
- E-mail and Internet capabilities and is a member of DELNET.

References

1. Saha, J. (1969), *Special Libraries and Information Services in India and in the USA*, Metuchen, N.J.: Scarecrow Press, P. 5

2. Ibid., P. 21.

3. Rajagopalan T. S. and Islam, S.L. (1963) National Grid of Scientific Libraries," In: Ranganathan, S. R. (eds). *Documentation and Its Facets.* Delhi. Pp. 166-175.

4. National Dairy Research Institute (ICAR), Annual Report, 1991-1992 (Kamal, 1993), p.1.

5. Ministry of Information and Broadcasting, Government of India, (1997), *India, 1996: A Reference Annual*, New Delhi: Publications Division

6. Sasikala, C. (1994), *Industrial Library Systems*, New Delhi: Reliance, p.35

7. Sebaston, N. J. (1990), *National Council of Applied Economic Research (Library & Information Activities), Handbook of Libraries, Archives and Information Centres*, vol. 8 Delhi: Aditya Prakashan, pp.161-163

8. Mangla, P.B. *Libraries and Information Systems in India*, p. 492.

9. Chhotey Lal, (1995), "Development of Agricultural Libraries in India in the Post-Independence Era", *Library Herald*, Vol. 33 No.1-2, p. 22

10. Ibid., 23-26.

11. Ibid., 24

12. Dixit R. P. (1993), "Assessment of Health Literature Information Services in Indian Health Science Libraries," *International Information and Library Review*, Vol. 25, pp. 167-168.

13. Guha, B. (1983), *Documentation and Information: Services Techniques and Systems.*, Calcutta: World Press, p.161

14. INSDOC: Annual Report (1993-94), New Delhi: INSDOC: p. 20

15. Ibid., 31-34.

16. India, Ministry of Health and Family Welfare, Annual Report (1993-94) New Delhi: Manager of Publications.

17. Annual Work Report of IARI Library, (1994-95), New Delhi: IARI Library.

Chapter-3

Review of Related Literature

CHAPTER-3

REVIEW OF RELATED LITERATURE

A literature review is designed to identify related research, to set the current research project within a conceptual and theoretical context. The survey of literature is a crucial aspect of the planning of the body and the time spends in such a survey invariably in wide investment. Efforts have been made to review the related literature by going through books, conference proceedings, journals/periodicals articles etc.

This chapter presents an overall review of studies conducted abroad as well as in India regarding the topic Growth Development and Services of National Subject Libraries, New Delhi. The investigator reviewed only those studies which are related to the present study.

The review of literature in this chapter is categorized into four broad groups, such as:

- Collection Development
- Growth & Development
- Library Services
- User Survey

3.1 Collection Development

Seth, Ramesh and Sahu (1997)[1] studied under the title "Utility of library collection in a special library: a case study." The major objectives of the study were: (a) To know the users' requirements. (b) To find out the use of the library collection, (c) To find out the most frequently used collection of the library. (d) To determine whether the methodologies adopted by the users to acquire the information to meet their needs, and (e) To find out various sources of information used by the users. Questionnaire method was used for data collection. The important findings of the study were (i) The users give maximum importance to the relevancy of the needed document rather than any other aspect of the library. (ii) Greatest concern as well as dissatisfaction of users has always been linked to the reading materials. (iii) Majority of users have expressed that they have current research information on their own field of specialization. (iv) Most of the users are choosing selected items and its procurement from different periodicals. (v) Computerized literature search is highly welcomed. (vi) Most of the users are not aware of On-Line, CD-ROM and E-mail etc. (vii) everybody preferred to have library automation. (viii) Scientists are using more current research reports, periodicals and non-collection materials and demands for photocopy or translated reprint of the same for their research purpose. (ix) An increase in the library budget has been observed as per the increase in the expenditure for procurement of library books, journals and other documents.

Edwards (2004)[2] examined under the title "Collection development and maintenance across libraries, archives, and museums: a novel collaborative approach." The main objectives of the study were (i) To propose guidelines for collection across libraries, archives, and museums that incorporate an understanding of how collections develop, the social systems that impart value to the collected items, and the needs of the research population. (ii) To semiotic frameworks for understanding library and information science phenomena appear with increasing frequency in the published literature over the past four decades. (iii) To find out selection, movement, and social value of objects within collections. (iv) To find out collaborative solutions for preservation of physical objects, and (v) To find out the demonstrating Pareto-Optimal outcomes. Observation method was adopted for the study. The major findings were the use of the materials across libraries, archives and museums. The value of a documental object also changes over time, thus the relevance of the object to the user populations of various types of collecting organizations either increases or decreases. Rather than ignoring this shift in value and its implications for access and preservation, our profession must adopt practices and systems that support inter-organizational collaboration with respect to collection maintenance. Coordinating the acquisition and weeding decisions of institutions appears to be both socially beneficial and technologically possible. It would be unwise to assume the implementation of information system alone would resolve coordination and cooperation issues. In order for such a system to enable change, our library, archival, and

curatorial traditions relate to one another. Each of these institutions has certain strengths when dealing with objects at different stages of their life cycle.

Maharana, Choudhury and Dutta (2004)[3] conducted a study under the title "Collection development of electronic information resources in the R&D libraries of Kolkata city: a survey". The main objectives of the study were: (i) To reveal the present status of collection of e-resources in the libraries under study; (ii) To find out collection development policies of e-resources adopted by these libraries and to evaluate such policies and practices. (iii) To explore the current practices of selection, and evaluation of e-resources; and (iv) To recommend practicable guidelines for improved collection development programme. To collect data Questionnaire methods was used. The important findings were: (i) Out of 10 libraries only 4 (40%) libraries provides access to their OPACs, E-Journals, E-Databases, and such other resources via Internet on the Local Area Network (LAN) to the faculty, students, scientists, researchers, and other users of the respective libraries. (ii) The libraries under the study have been subscribing to a wide range of electronic databases, such as AGRIS, MEDLARS, Sociological abstracts, INIS, etc. Specific to their area of research, (iii) Six (60%) of the libraries have a policy statement for development and management of their e-resources (iv) One more surprising aspect noted in this study is that only 3 (30%) out of 10 libraries subscribe to CALIBNET. (v) Fill the libraries except NIRIAFT have their own Website. They provide OPAC, Inter Library Loan, email, descriptions to their e-

resources, staff directory, etc through their Website to the off campus users worldwide. (vi) Eight (80%) libraries do not follow a standard practice to preserve their digital resources. Most of the libraries, i.e. 9 (90%) preserve the electronic documents in PDF Format and equal number of them also preserve in HTML Format (vii) Technical training is provided to the staff of 7 (70%) libraries on digital asset management. In case of 7 (10%) libraries, the staffs are trained on digitization of library resources' followed by 5 (50%) libraries on development library m-house databases', digital presentation, and acquisition and access to consortia based resources.

Moin Ahmad and Haridasan (2005)[4] surveyed under the title "Study of periodicals collection in National Library of Veterinary Sciences". The objectives of the study were: (a) to find out whether the members of NLVS are satisfied with the services or not. (b) To reveal the years of publication during which periodicals were consulted maximum by users. (c) To identify the most useful periodicals used by the researcher in his area of research (d) To obtain the most useful periodicals by the researcher other than his area of research. (e) To find out what proportion of periodicals which are being used, from other libraries, by the users of NLVs. (f) To learn about the use of non-conventional form of periodicals. (g) To identify the arrangement of the periodicals and back volumes of the periodicals on the shelves is useful or not, and (h) To determine the periodical collection at the NLVs is satisfactory or not. Questionnaire method was used for data collection. The major findings were (i) majority of users (90%) visit library to consult documents for

their research. (ii) From the study it is found that 89% users consult 'Indian Science Abstract' for references and abstract, followed by 'Index Veterinaries' (35%), 'Immunological Abstract' (28%) and 'Dairy Science Abstract' (28%), (iv) The study identified that all users use bibliographical services, 30% full-text and only 12% use online services. (v) English is the most preferred language for reading, periodicals among the scholars. (vi) It is very clear that, if required periodicals are not available in their own library, then they consult it from other libraries. (viii) English is the most preferred language for reading periodicals among the scholars. (viii) The study identified that the secondary periodicals are averagely useful for the scholars in information search, and (ix) It is also observed from the collected data that most of the users are aware about the non-conventional form of material and use CD-ROMs for their literature requirement.

Bali (1997)[5] carried out a study under the title "Collection development in NISTADs Library." The major objectives of the study were: (a) To carry out research in the areas of science, technology and society (STS). (b) To provide consultancy services and undertake sponsored research and commissioned studies for international and national agencies, central and local government bodies, industries and other organizations concerned with policy formulation, planning and management of science and technology. (c) To provide training to scholars and functionaries from India and other developing countries in the areas of institutes specialization. (d) To undertake cooperative research projects and provide research opportunities to scholars though various

schemes. (e) To add to general fund of knowledge in STS through publications, seminars, conferences, lectures, etc. and (f) Information discrimination in its areas of specialization. Observational method was used for data collection. The important findings of the study were: (a) The budget of NISTADS library has been increasing every year and increase in the budget has resulted in the growth of collection of books, journals, reports, etc. (b) The availability of large number of reports and their important, demands that care be taken to acquire, only those reports which were directly relevant to the research work of the organization. (c) Technical reports were accessioned in the same way as were books. These were generally arranged on the shelf by corporate author and under each organization according to serial number of the report member assigned by the issuing agency. A detailed catalogue by corporate authors, personal authors, title report number and subject was maintained for reference purposes. (d) The demands of user was justified because of information explosion in every subject area. It was balancing act of selective in-house collection development and use of information technology, which could quench the thirst of research community.

Odini (1994)[6] examined under the title "Collection development: the experience of Kenya Polytechnic Library" The Objectives of the study were (i) To support the teaching and learning activities of the institution. The library stocks books periodicals, official publications and students project report. The library has a good collection of non-print material such as microforms, slides and reader printers. (ii)To meet the needs of part-time and industry-based

students, mixed mode attendance is available in many courses and a vital commitment to the sandwich course is a feature of the Keny Polytechnic life. The major findings of the study were the library in collection development, particularly the problems of inadequate funding, lack of collection development policy and those associated with foreign purchases. The various factors which librarians at the polytechnic ought to consider in order realizing brighter collection development prospects. That factor includes the formulation of suitable collection development policy, the organization of gifts and exchange practices and participation in resource-sharing programmes with other national polytechnics and universities. Finally an introduction of library development levy and also the practice of collection weeding.

3.2 Growth & Development

Kumar, and Pupinder (2002)[7] in their article describes that the advancement in information technology and significant changes in health information environment signals a need for a change in the role of health science librarians' and calls for a very high level of professional competency. The whole scenario has redefined the infra structure of health care, education and research. In coming years the educational responsibility of health librarians shall include teaching access to the literature and other resources, teaching and guidance in the use of technology as a mean to access and manage information. Health science libraries have a distinct group amongst the special libraries because of the complex fabric of form, formats and delivery

mechanism of health science information. Health science information profession is going to stay only with a new exceptions to have an overview of health science library operation, knowledge of biomedical literature and its terminology, professional attitude, management skills, insight into user needs and ability to translate into search operation, familiarity with information technology available to solve the problems and vast information resources available in various forms. This changing information environment necessitates for library manpower with high caliber, confidence and ability to meet the challenges and responsibilities bestowed on them.

Kaula (1993)[8] states the association with Government of India libraries, his work in Ministry of Labor (1951-58) and his role in sponsoring the cause of government libraries and librarians before the central pay commission. Discuss the structure of government libraries and then character and dimensions states the challenging task of libraries and their new role caused by the introduction of new technologies. Highlights the new activities and services, and the application of new technology resulting in automated information systems and networks. Also discusses the image and status raised by Dr. S.R. Ranganathan through his work at Madras University specifying the role of reference libraries. Points out the attitude of libraries after gaining the status as observed by Dr. Ranganathan.

Katogi (1994)[9] States the genesis of the National Dict Library, Tokyo. Japan and its organizations, collection and preservation of documents and their accessibility and use. States the major collections and their catalogues,

bibliographies and indexes. Describe its services, inter library loan , and automation used in the library. Also states its buildings facilities and finance.

Veeranjanyulu (2003)[10] describes the need for automation in agricultural libraries. Enumerates the different aspects of library operations. Author also discusses about Agricultural Research Information system in his article. Lists agricultural libraries in Andhra Pradesh. Provides information about utilization of computers. Enumerates problems faced in automation systems in agricultural libraries.

Shafi (1997)[11] conducted a study on "Health Science Research libraries in India. If focuses on permanent Health Science Research institutions attached to ICMR, CSIR, DRDO, CCRALS, CCRH, CCRUM and CCRY & YV. The data were collected for three years of two five year plan periods. The Methodology was questionnaire method and to supplement information literature survey and observation method was used. The findings were that the selection policies were arbitrary and vary from institute to institute. There was an average growth in the finance. There is in recruitment policy for staff. Different types of services are available such as Inter library loan, Bibliographic services, on-line services etc. Author had also given some suggestions like there should be a common policy for the functioning of the library. Library should subscribe core journals. Financial allocation should be made to purchase technology units/gadgets, specialized services should be provided.

Korale (1984)[12] discussed under the title "National library development and legislation in Sri Lanka: a review". The author listed the objectives of the national library. An attempt has been made in this study to review the historical development of the major libraries in Sri Lanka and the related legislation which play a primary or secondary role and which have a bearing on the development of National Library Services. The deficiencies in the law and the limited responsibility and authority cast on the National Library Board as well as the need to clearly demarcate the functions and responsibilities between the Board and the national Library have been commented upon. In order to ensure that a body, which has the active participation of eminent members of the library profession, establishes national library policy. The Board should be constituted to include a number of senior librarians with long and varied experience. The Act as presently constituted provides for the appointment of nominees of three ministries. The power of the Board Should be made more forceful and meaningful by making it incumbent on the part of any authority embarking on library and information development to consult the Board. This advisory and consultative role of the Board can be made effective by requiring the government budget authorities and external donor agencies to consult the Board on library development proposals and projects. Legislation should provide for this advisory role and coordinatory function. A budgetary provision to maintain a reasonable standard of services and to improve the quality of service in the medium term and also to attract and retain

professional staff is as important as the institutional changes. These institutional changes, statutory provisions, and adequate financial support are prerequisites for the National Library Services Board to play an effective role in providing National Library Information Services.

Thakur (2003)[13] conducted a study under the title "Growth and development of the National Institute of financial management: a case study." The major objectives of the study were: (a) To know the various kinds of library resources available in the library; (b) To determine whether a availability of financial resources and the expenditure on different items; (c) To know the growth of library collection year-wise; (d) To ascertain the computerized activities of the library and find out the different kinds of computerized services provided in the library; and (e) To find out the reading facilities provided to users making effective use of the library and its resources. For data collection regarding the financial resources, growth of the library collection, number of users, application of automation and other information technologies used in the library Questionnaire method was used. The important findings of the study were: (i) Distribution of library budget from 1994-95 to 2002-03. The Budget of the library is spent on different resources of the library such as books, journals and non-book material. A major portion of the budget (72.7%) is being spent on the purchasing of books followed by journals (27.3%). The highest proportion of budget i.e., above 95% was spent on books from 1995-97. For the financial years 2000-01 and 2001-02, the budget on the subscription of journals was higher than books. (ii) The library

collection comprises of books, bound volumes of periodicals, and non-book material are added in the library from 1993-2002-03. It interprets that pre 1993 to 1995-96 only books were there in the library collection. However, non-book material made entry in to the library in 1996-97 but 1997-98 onwards both acquisition of the non-book materials and binding became regular feature of collection development. It shows that during the last 10 years of the library operations, over 93% of books were added in the library collection, (iii) the cumulative growth of different types of library collection over the 1993-2002-03. In 2002-03 total growth of library resources collection was 19799. It focuses on electronic and online resources that provide rapid access to the users.

Reddy (2002)[14] examined under the title "Development of Central library at REC Warangal under UK-India RECs project 1994-1999: a case study". The main objectives of the study were (a) to strengthen the libraries in all the eight RECs by sharing the resources amongst them. (b) To avoid duplication of purchases wherever possible in order to maximize the utility of the expenditure and (c) To promote mutual academic interaction amongst the Faculty and the students of different RECs. Observation method was used for data collection. The major findings were the status and successful development of (i) Manpower training-high degree of technical skill, intelligence, initiative, efficiency, understanding, team management for improving library services, (ii) Strengthening of library-procurement of latest and advanced books, current journals, electronic form materials, such as CD-

ROMs, Disks, video cassettes, etc., to fulfill day today requirements, (iii) Resource Sharing to avoid duplication of purchase of information, to promote mutual academic interaction, (iv) IT development purchase of IT infrastructure, Database creation, Housekeeping operations such as Acquisitions, Serial control, OPAC, Circulation Desk (through Barcode Technology), Multimedia facility, CD-ROMs, Disks, Internet and Email, Audio-Visual etc., under the UK-India RECs Project as well as centre of excellence at the Regional Engineering College, Warangal. The developed countries are emphasizing more on IT, continuous professional development, Total Quality Management (TQM) through various organizations, institutions, centers in our country are trying in this direction but it seems that we are far behind from other countries like USA, UK, mainly due to lack of commitment, money, time, poor understanding of the role of training, inadequate strategy or operational planning. Whatever may be the reasons, we must commit ourselves to the ongoing developments throughout our working lives.

Gupta (1994)[15] undertook a survey under the title "The users of GOI libraries". The main objectives of the study were: (i) To find out identification of the characteristics of the users; (ii) To use studies i.e., pattern of use, type of information/reading material or library services used. (iii) To find out users satisfaction i.e., assessment of the satisfaction of the readers with respect to the library, its collection and services, and (iv) To users need. Questionnaire method was used for data collection. The major findings were the majority of

users GOI libraries were regular users of the library. The Central Secretariat Library was the most commonly used library amongst the government officials. To the extent of 31.5%, officials were in the habit of visiting the library personally in order to seek information. The libraries attached to government organizations are used both for official as well as recreational purposes. Government documents containing statutory provisions, rules, ordinances or reports were usually in demand for information support in the official routine. Books and periodical literature were equally used and were popular as compared to other types of material such grey literatures maps etc. Libraries were generally able to meet the information requirements of the clientele. The specialized services provided by the libraries were stated to be useful, however, unawareness of the government officials about the availability of services required to be taken care of, in orders to have optimum utilization of the services. The library collection was found to be satisfactory and the overall performance of the libraries was also good. The GOI libraries were found to be actively associated serving the official and recreational needs of the official and also function as repositions of official documents. The users of GOI libraries favor augmentation of library facilities, viz. more comprehensive coverage of library collection, better service provisions, better physical facilities and reorganization of the libraries.

Syed Jalaluddin Haider (1998)[16] surveyed under the title "Public libraries and development planning in Pakistan: a review of past efforts and future needs." The objectives of the study were: (i) To shows that development has

been at best a piecemeal affair and at worst non-existent. (ii) To find out the early pre-independence development of public libraries. (iii) To find out the early post-independence period of the development of libraries. (iv) To know the public library planning, and (v) to determine challenges and prospects for public library development. Questionnaire method was used for data collection. The important findings of the study were: (a) The greatest achievement of the pre-independence period was the establishment of the Punjab Public Library at Lahore (1884). It was envisaged by Lt. Governor Sir Charles Atchison as "an institution of thoroughly public character for all classes of community without charges." (b) The second phase of public library development began in the early years of the twentieth century. The enactment of the Imperial Library Act in 1902, followed by the establishment of the Imperial Library in 1903 by Lord Curzon, bolstered the movement across British India. By establishment this library the government recognized the provision of library services to citizens as one of its obligations for the first time in the history of public library development in the Indian subcontinent. (c) At independence Pakistan inherited only one public library of significance, the Punjab Public Library, Lahore. This library suffered serious setbacks because of the events following partition. Despite continuing political and social tensions, the government stressed the importance of libraries, even in the early years, to help maintain the country's cultural values. (d) Since independence efforts have been directed by both government and library associations towards establishing a public library system in Pakistan. Library

experts, including foreigners, have been commissioned by the government to prepare development plans of different kinds, and a few library associations also have prepared and submitted their own plans to the authorities. However, none of these plans succeeded in coming the authorities to act. Reason for the government's failure to implement the recommendations may have included an ineffectual administrative infrastructure, lack of understanding of the role of libraries in nation-building programmes.

Ceeney (2004)[17] studied under the title "The British library delivery the World's knowledge: some recent developments." The major objectives of the study were: (a) To know the development of the British Library's services for researchers, business and the public. (b) To provide strategic leadership for collaboration between publicity - funded research information providers and their users - to develop effective, efficient and integrated information resources and services to support UK research. (c) Co-ordinate action to propose and specify into UK researchers' needs carried out by the RSLG; and (d) To act as a high level advocate for research information, across the UK and internationally. The historical method was used for the study. The important findings of the study were: (i) They show that the British Library adds significant value tails researcher base beyond the investment made in the library itself. (ii) They signal a shift in the mindset of the British Library from input-to output-driven (iii) The library's collections and services already make a huge difference to the UK national research infrastructure, as well as to the work of individual researchers. (iv) Our new services, available either

in the British Library's buildings or at your desktop, are being well-received. (v) The British Library's mission is to "Help people advance knowledge too enrich lives", and through these development, we are achieving this ambition.

Brindley (2005)[18] in their article entitled "The British Library: Its origin, development and future." The major objectives of the study were: (a) To provide the best possible central library services for the United Kingdom. (b) To find out preserving and making available for reference at least one copy of every book and periodical of domestic origin and of as many overseas publications as possible. (c) To provide as comprehensive a reference service of last resort as possible. (d) To know the providing an efficient central lending and photocopying service in support of the other libraries and information systems of the county, and (e) To find out central cataloguing and other bibliographic services related not only to the needs of the central libraries but those of libraries and information centres throughout the country and in close co-operation with central libraries overseas. The history of the British Library was described. The responses it was making to current changes in the audiences it serves and the environment in which it exists were analysed. The important findings of the study were: (i) The nature of the scholarly communication process is changing but document supply will continue to play an important role (ii) The British Library as a model, because its scale and the richness of its resources are impossible for most libraries to initiate. In its range and quality of services, from document supply through science reference services to bibliographic services it was unique. (iii) With the

arrival of the electronic information age a new set of challenges emerged. The internet has provided uses with the ability to search independently for relevant information, and in some cases to have the full results of such a search delivered instantaneously.

Williams, Phillips and Linda (2004)[19] discussed under the title "Collection development embraces the digital age: a review of the literature, 1997-2003." The objectives of the study were: (a) To find out the growth of electronic resources. (b) To find out the change in scholarly communications. (c) To know the extent to building digital collections. (d) The cooperative collection development has taken on new vitality in the digital age. (e) To know the organization, training and professional development (f) To know the collection assessment and evaluation, weeding and storage, and subject specific collection development. A review literature method was used for the data collection. The important findings of the study were: (i) Collection development and management literature of the past seven years reveals distinct trends among issues, philosophy, and practice. (ii) Digital age themes reflect the increasingly networked nature of the profession, with new attention focused on scholarly communications and publishing, digital collection building, consortia collaboration, and quantitative assessment. (iii) The literature of collection development and management is primarily applied, reflecting the pragmatic nature of authors and readers. (iv) Author who explore the implications of collection building in the digital age

challenge readers to imagine a vastly different future for collection development practice.

3.3 Library Services

Subba Rao (1993)[20] discusses that the system of National Central Library and the state central libraries are to give professional directions by regrouping libraries under each Ministry with powers of total administration cadre positions of the professionals will be recruited at UPSC or State level Public service Commission, to form Indian library cadre under a Union Act, with linking model library acts at state level a 'council of National subject libraries' be established to administer (Government Library Fund) and advise the minister to libraries to lay the 'Five year Plans' and 'Annual Reports' on the table of the Parliament. The change is only from bureaucracy to technocracy, and a little reshaping, which is a system and result oriented.

Naidu and Gunjal (1993)[21], in their article "Agricultural library building and their structure in India" emphasizes the role of library building in rendering effective services. Reveals that nearly 40% of the agricultural libraries studied possessed independent library buildings. Also works out the area utilized for various library functions. Stresses that quite a large numbers of agricultural libraries need additional floor area to meet its immediate and future requirements. Suggests that the libraries housed in non-functional buildings should plan for new library buildings on functional lines.

Howard (1994)[22] Refers to the National Agricultural Library (NAL), Washington, D.C. as the Worlds foremost agricultural library. Mentions the library's holdings the largest collection of agricultural sciences. Describes its collections, automated managements, access to collection and AGRICOLA - Highlights the application of experts systems, hypermedia technology, text digitizing, image trans-mission and other projects and programmes states its outreach programmes through 14 information centres.

Nomma (1994)[23] in his article" information services in National Diet Library" presents an outline and the state of information services of the National Diet Library of Japan. States the application of information and communication technologies, shifts towards networking, development of automated cataloguing and indexing systems, creation of bibliographic databases of domestic and foreign materials. Introduction of information services, library services to users and plans for total automation.

Kaur (1994)[24] analyses the concept and describes the growth of information services in the libraries of agriculture universities and also discusses the development of agricultural information services in India. Depicts the present status of information services in the libraries of agricultural Universities and Research Institute. Advance in brief suggestions to improve the situations.

Singh (2004)[25] in her paper "A fresh look at Agriculture library services" discusses the state of agriculture libraries in India and evaluates parameters

such as, need for agriculture library Association automation and networking, Agriculture Documentation centre, professional development of library staff, professional status etc. and suggests measures for improvement of library services.

Mendelsohn (1997)[26] article "services in automated libraries: challenges and opportunities" discusses the difficulties which libraries are facing today as they plan to automate. Indian libraries face these challenges at time when financial resources are dwindling and the costs of automated systems are increasing. The article discusses about the challenges and opportunities involved in automating library and illustrate with examples of what American Libraries have accomplished and what may be a word of warning for Indian libraries. The US has the largest number of automated libraries in the world. The paper summarized some recent changes that have occurred in American librarianship, highlights some of the interesting and acerbic debate and mentions more sober attempts the librarians have made to find solutions for this hydra headed monster of information technology.

Prodhani and Gautam (1997)[27] discuss the various services rendered by the ten University libraries of North-Eastern India vz. Arunachal University (ARU), Itanager, Assam Agricultural University (AAU), Jorhat; Assam University AU), Silchari; Central Agricultural University (GU), Gawhati; Manipur University (MU), Imphal; Tezpur University (TZU), Tezpur; and Tripura University (TU), Agartala. The study shows that these University libraries provide many services based on traditional methods. Introduction of

computers and e-mail facilities under INFLIBNET project should help them automate services for better user satisfaction.

Hanifuddin and Harun-ur-Rashid (2002)[28] discussed the "Networking of Agricultural information systems in Bangladesh and highlights the need and importance of networking in the agricultural libraries and describe a plan for developing a network of the libraries of agricultural universities, agricultural colleges and research institutes in Bangladesh. Author also describes the functions and objectives of the network and how it can help in strengthening the development of skills, the design of appropriate information products and in exchange of information and document supply.

Singh (1994)[29] surveyed under the title "Evaluation of collection and services provided by IIT Libraries: Users point of view". The main objectives of the study were: (i) To find out the types of documentary sources required by user i.e. PG students, research scholars and faculty members; (ii) To identify the information needs of the users; (iii) To ascertain users' opinion. With regard to usefulness and adequacy of information sources; (iv) To assess the users' awareness as well as the usefulness of library services in carrying out teaching, learning and research programmes; (v) To identify the problems faced by the users in using the library; and (vi) To suggest the solutions to the library to overcome the problems. The methodology used was Questionnaire and interview methods. The important findings were: 1) Majority of users, in the order of priority visit the library to update their professional knowledge, consulting the documents for research use and for borrowing and returning

the documents. (2) Library catalogue has been found to be most useful by most of the users. Organization of document collection has been found to be most useful by most of the users. Organization of document collection has also been found to be helpful by majority of the respondents. (3) Out of total ten main categories of documents - periodicals, reference books and text books were the most useful documents listed by the users. (4) Users awareness about the library services reveals that more than 50% users are aware of different services being provided by the library except indexing/abstracting, translation and SDI services where awareness ranges between 5.3% (SDI) to 18% (indexing/ abstracting). (5) As far as helpfulness of these services was concerned circulation had been ranked at the top, followed by photocopying, references, etc Bibliographical, CAS, Translation and SDI, etc., was in useful. (6) Users were satisfied with circulation services except that research scholars have emphasized on the overnight issue of bound volumes of periodicals. As regards the average time taken to borrow the documents on ILL was concerned, lesser number of the users was satisfied. Users were satisfied with reference service as well as with the attitude of reference staff as majority of the users have expressed that the provision of help should be there to search the documents, use reference sources, and use of bibliographical sources etc. and (7) Since bibliographical service was provided on demand basis, most of the users were not aware about its provision under CAS, only display of periodicals has been

assessment of collection and reader services". The main objectives of the study were: (a) To find out users opinion about the adequacy of the categories of documents (b) To know the users response on awareness of the services provided by the library; (c) To know the reservation facility provided by the library; (d) To find out the users the users opinion regarding the photocopying services provided by the library. to collect data Questionnaire method was used. The important findings were: (i) Majority of the users responded that the library collection, library services and attitude of library staff is good (ii) responded that services have also been very satisfactory; and (iii) the users of the library were not fully satisfied with the photocopying services and suggested the need for improvement in photocopying services, and (v) Majority of the faculty members have evaluated that the attitude was good on the contrary most of the students have evaluated their behaviour was very poor. Both the group has suggested for the improvement in the library and in the behaviour of the staff.

Krishnamurthy (2001)[31] discussed under the titled "Development of Computer Catalogue at Indian Statistical institute, Bangalore Centre library." The objectives of the study were: (1)To create, a database: Indian Statistical Institute was at a vital stage in integrating its automated systems as part of its long-term automation strategy. (2) To improve service to its users: ISIBC

Library had card catalogue, which was complete in itself. (3) To improve internal library procedure: The integration of acquisitions and cataloguing functions through automation had resulted in the streamlining of many technical services routines. As an increasing proportion of machine readable records became available this trend could be expected to continue. Observation technique was used for data collection. The major findings were: (i) Retrospective conversion of catalogues was being undertaken by increasing number of libraries. Retrospective catalogue conversion often referred to as to as retro conversion, deals with changing already existing catalogues from a traditional into machine readable format. (ii) The retrospective conversion project began in two stages. In the first stage nearly 5000 documents were entered in CDS/ISIS database. In this process, data elements and tags were assigned according to CCF and ISO 2709 format. (iii) In the second stage, new online records were created for circulating library materials. Fill the documents were taken from the shelves and the bibliographic details entered into the computer. (iv) LibSys was a comprehensive, user friendly and well designed system. The experience at ISIBC library widely reveals that the adoption of LibSys has helped us to increase the efficiency and speed of all house-keeping operations in general and Online Public Access Catalogues (OPACs) in particular.

Clavel (2004)[32] made a study under the title "National libraries as access points: the role of TEL and MACS." The major objectives of the study were: (i) To expand access to the resources of all the Conference of European

National Libraries (CENL) members; (ii) To offer access not only to digital legal or voluntary deposit and digitized treasures, but also to the print holdings of the partner libraries; (iii) To provide access to licensed material, sound or image collections or multimedia; and (iv) To investigate digestion and print on demand (depending on copyright) in order to improve access to the vast print heritage. Questionnaire and interview method was used for data collection. The important findings were (a) Publisher relations aimed to established common approaches to negotiation with publishers in the area of legal or voluntary (electronic) deposit, and also corporate in licensing and copyright. (b) Business plans and models concentrated on market research to investigate the user, and on funding models. A subscription model for the first three years has been adopted that enables the founder members to launch the service with free search of metadata. (c) Metadata development aimed at agreeing on common standards for metadata to support access to distributed collections. The partners use MARC21.Finmarc, Dublin Core, UNIMARC, Pica3, COMARC custom built data models to describe the content of their collections and each additional partner would undoubtedly add more formats. They therefore agreed to create a common data model, DTD and XML scheme to share metadata; and (d) Interoperability test beds, access to libraries would be provided via a central portal, and as part of the study functional requirements have been drawn up and a request for information sort out to portal suppliers. In parallel, two test beds were developed to investigate two approaches again reflect the TEL philosophy that the barrie

to participate should be kept low and therefore different approaches were feasible. Some partners libraries would access to their metadata via the 239. 50 protocol, with format conversion 'on the fly' while others would provide metadata in XML via the OAI protocol. TEL partners, current and future, use a variety of different systems, formats and of course languages. In order to cross the language barrier and improve access, a number of approaches might be considered such as display and access.

Akhtar Hussain and Krishna Kumar (2006)[33] conducted a survey under the title 'Use collection and services of IIRS library: a Survey". The major objectives of the study were (a) To study the patterns of frequency of use the IIRS library; (b) To identify the different purposes for which the Scientist, Research scholar, students and trainees use the IIRS Library; (c) To find out the user satisfaction with the services provided by the library; (d) To assess the documents find out in the library; and (v) To determine the area of print collection, electronics collection and periodical collections in IIRS library are adequate or inadequate. Questionnaire, interview and observation methods were used for data collection. The major findings of the survey were 1. A majority of the users (41.25%) of the IIRS library use the library services daily 2. A majority of the respondents mainly use the library for borrow books and other materials (81.25%) and the least number of respondents use the library for audio-visual materials 3. most of the respondents preferred in print collection (87.50%) were using books followed by e-collection (68.75%) were using CD and multimedia CD, further followed by (86.25%) respondent for

use current periodicals. 4. Most of the respondents fully satisfied with library service i.e., reference and referral services, lending services, photocopying service, etc provided by IIRS library.

Vijay Kumar; Padmamma and Sampat Kumar (2000)[34] conducted a scientometric analysis under the title "Information use by library professionals: a scientomatric analysis". The main objectives of the study were: (1) To find out the number of citations per dissertation. (2) To identify the forms of reading materials used by project researches. (3) To show year-wise distribution of the literature. Scientometric method was used for data collection. The major findings of this study were: (1) The average number of citations per dissertation is 38.66%. (2) The form wise distribution pattern of citations shows that books topped the list with 57.8% citations followed by periodicals with 32.7% citations. (3) The number of dissertations on college libraries are found to be maximum (42.5%). (4) Of the journals cited by the researchers 6.94% were available in the Kuvempu University library. However, of the journal articles cited, 40.75% were available in the same library.

Umarov (2004)[35] presented a paper in the conference entitled "The role of the National Library of Uzbekistan in its assistance to users." The main objectives of the study were: (a) To make use of traditional (printed) and electronic bearers of information. (b) To preserve traditional forms of service and to inculcate innovations. (c) To use information technology to the optimum. And (d) To extend access to the national information recourses not only for the

readers within the library but also the distant users. Historical method was used for data collection. The major findings were: (i) The national Library performs a humane mission as the curator of the national documentary heritage of the Uzbek people (ii) The NL collection holds above ten million publications includes rare and antique editions, manuscripts lithographs, first national periodicals, books and other documents (iii) Presently in 2002 in accordance with the President's decree " On the improvement of the Organization of Scientific Research Activity" the library received the official status of the National Library. These changes aim at further development and improvement of librarianship with due regard for changes taking place in traditional library technology and services to users. (iv) The National Library has become the coordinating centre of the interlibrary loan in the republic. There are nine specialized reading rooms for 300 persons at the readers disposal Annual attendance is over 550,000 users annual circulation is 1,700,000 publications, and (v) The electronic catalogue database of the National Library contains more than 30,000 records assessable to readers.

Ramesha and Kumbar (2004)[36] focused under the title "Evaluation of circulation services: a case study of university libraries of Karnataka State." The major objectives of the study were: (a) To know the total population of the university and the number of registered borrowers of the library. (b) To know whether the rules to become a member of the library are flexible? More the borrowers more the circulation. (c) To know the library resources useful for the prescribed course, research need and availability of multiple copies.

(d) To assess and measure the users opinion on the circulation services. (e) To workout the strategy to increase the circulation transaction and to suggest the feasible and possible solutions. (f) To know the method of charging and discharging of documents easy and simple from the point of users and library staff. (g) To know the time required for finding the required materials. and (h) To know whether library catalogue/OPAC is up to date and easy to understand by the readers. Questionnaire method was used for data collection. The important findings of the study were: (i) The Kuvempu (91.5%) and Bangalore (91.5%) University rank 1s and 2nd respectively with regard to number of responses. The least number of responses have come from the Indian Institute of Science (Bangalore) (68%). (ii) Of the total respondents 416 (50%) and PG Students, 216 (27.83%) are research scholars and 198 (23.16%) are faculty members. (iii) It is observed that on an average 300 to 350 users visited the library daily and about 600 to 800 books were consulted within the premises of the library and 200-250 books were issued for home lending per day. (iv) a majority of the PG Students 372 (90.42%) research scholars. 209 (96.76%) and faculty members 162 (81.81%) have reported that they have received the books as per their study, research and teaching requirements. At the same time most of PG students 269 (64.66%) research scholars 165 (76.39%), faculty members 134 (67.68%) are happy with the existing period of home lending. (v) The study identifies that 350 (84.13%) PG students, 146 (76.13%) research scholars and 111 (56.06%) faculty members are not satisfied with the existing prescribed book limit. (vi) The respondents

of IISc and Mangalore University have stated that they have not waited in the circulation counter to borrow/return books. Rest of the four libraries respondents stated negatively and (vii) Most of the users are satisfied with the quality of existing circulation service in all the seven university libraries. However, one fifth of the PG students and one fourth of the research scholars and faculty members are not happy with it.

3.4 User Survey

Singh (1997)[37] studied under the title "User Survey: findings and Suggestions" Presents in brief the findings of a users' survey conducted through questionnaire method. Evaluates the services provided by Banaras Hindu University Central Library and its subsystem from users point of view. Deals with the various types of users' requirements and points out the various lacunas, problems and disparities in the library and the management. Aims to bridge the gap created by lack of communication in between the library authorities and its users. Suggests the ways to cope up with prevailing problems.

Choukhande and Kumar (2004)[38] examined under the title "analytical study of information needs and use pattern of faculty members and research scholars of Amrawati University". The Main objectives of the study were (a) the information needs and use pattern of faculty members and research scholar (b) to identify the problems faced by the faculty members and research scholars (c) to suggest some remedies to solve the problem. The

Methodology used in the study was survey techniques including questionnaire method, observation and interview technique. The major findings of the study were: The reference sources preferred by the users are encyclopedias, periodicals, dictionaries etc. The users in comparison with other electronic sources use less audiovisual materials. Most of the users use the catalogue, bibliographies, indexes and abstracts. Majority of the users use the library to borrow books to study research, training programmes Users also face problems in using the library.

Ahmad Hafiz Ibrahim (2004)[39] carried out a study entitled "Use and user perception of electronic resources in the United Arab Emirate University (UAEU). The objectives taken by the author were; a) to assess the frequency of e-sources use by UAEU faculty; b) to examine the performance of UAEU libraries; and, c) to identify the performance in the use of electronic resources. The methodology used to carry out the research and collect the data was questionnaire. The findings of the study were a) the frequency of use of the electronic resources was low in UAEU b) The academic load of the faculty members are quite high since go 4% of the respondents teach 10 or more than 12 hours in a week. Because of the academic load they are not able to give importance to research. The reason cited were lack of time because of the time needed to focus on teaching; lack of awareness to electronic resources provided by the library, insufficient communication channels and language barrier.

Ashu Shokeen and Kaushik (2002)[40] undertaken a study entitled "Information seeking behaviour of social scientists of Haryana University. The paper aims to investigate information seeking behaviour of social scientists working in the universities located in Haryana. The objectives of the study were: a) to identify the purpose of seeking information, nature and type of information required by social scientists. b) To study the methodologies adopted by them to seek information. c) To identify the information sources and type of publication used. d) To rank primary and secondary sources of life. e) To determine the use of library and librarians for information need to be satisfied. d) To evaluate the usefulness of collection of their respective libraries. The Methodology used in questionnaire method. The findings of the study clearly demonstrated that social scientists depend more on documentary sources to keep abreast of latest information in their respective fields of specialization. Respondents showed that periodicals are the most used and most important sources of information. Processing is the first preferred method of searching the required information.

Seth, Ramesh and Sahu (1997)[41] studied under the title "utility of library collection in special library a case study". The study covered the five years data on library and documentation section. The methodology used to collect the data was questionnaire. The findings of the study were a) users give maximum importance to the relevancy of the needed document rather than any other aspect of the library b) Users were dissatisfied with the library materials. c) Users mostly use periodical for their study and research.

Aina (1997)[42] surveyed under the title "Usage of resources in the Ilorin branch of the National Library of Nigeria." The objectives of the study were: (a) To find out the various types of library resources available in the Library; (b) To determine the users by sex as well as age of the users; (c) To find out the growth of library collection year-wise; (d) To identify the categories of users; and (e) To find out the usage for data collection. The major findings were males and females who are between the ages of 31 and 40 and the researchers are the most frequent users of the government publications collection. Out of the 4595 users of these publications from 1990 to 1993, 3439 (74.6%) were researchers who engage in critical investigation to discover new facts through scientific study as opposed to users who read for examinations. With the usage pattern of the various types of government publications, Annual reports came first in order of items consulted. Technical papers followed it. Of the 4595 pieces of government publications consulted between 1990 to 1993, annual reports and technical papers accounted for 2879 (62.65%). Realizing the importance of indexing for effective retrieval and utilization of collections, the author recommends that the publishers for improving their use index government publications. Finally, the closed stack system, which makes it impossible to browse, should be de-emphasized. Serious users could be allowed to go to the stacks by a library staff since the use of the catalogue is inadequate in itself.

Lohar and Kumbar (2002)[43] examined under the title "Use of library facilities and information resources in Sahyadri Colleges, Shimoga (Karnataka): a

study. The objectives of the study were: (a) To identify the adequacy of the reading materials in the libraries; (b) To know the necessary information resources for teaching and learning process in the fields of interest to the college, (c) To know the facilities extended by the library, (d) To find out the types of information resources required by the faculty, (e) To ascertain the opinion of the faculty regarding the adequacy of information resources and services available in the library, (f) To help the administrator of the library for preparing an enrichment programme for better use of the library and (g) To assess the methods of organizing the documents in libraries. Questionnaire method was used for data collection. The major findings were: (i) Majority of respondents expressed their opinion that they visit the library for the purpose of consulting text-books, reference books, to acquire current and general information and to read newspapers and popular magazine etc. Majority of the respondents in both the colleges (42.86% and 42.86%) are aware of library classification. (ii) Again majority of the respondents (69.05% and 63.27%) consult the library catalogue for collecting information about documents available in the library. 38.10% and 38.78% of respondents from both the college specified the adequacy of information given in the card catalogue to be always adequate and helpful in identifying the needed information. (iii) The collection of library materials must meet the needs of the faculty. The study identifies that the reading materials are easy to access for both colleges i.e., 54.76% from Arts and Commerce and 63.27% from Science College. The subject periodicals and journals are not adequate to meet the needs of the

users because both the colleges lack full financial grant from the university authority. Majority of respondents were found to be aware of the reading materials which is helpful for academic activity of the teachers and also a good number of respondents from both the colleges are satisfied with the leading procedure in the library (iv) The opinions expressed by respondents regarding the physical facilities in the library such as lighting, ventilation and space available in the stack room and reading room etc. are not adequate, hence it is suggested to the higher authorities that improvement in this direction is also very much needed.

Senthikumaran and Vadivel (2001)[44] evaluated under the titled "Availability and utility of Tamil Nadu archives library." The main objectives of the study were the library utility value is in the opinion of its user community. This study assesses the user attitudes, their behaviors towards the library services, their interaction with library staff, their problems identified by them and suggestions offered for improvement of the library services and thereby reports user opinion of the same. Questionnaire method was used for data collection. The important findings were: (i) The library practices closed access system and therefore restrict of members from direct access to book and non-book materials thus compelling them to go through the catalogue and note the required materials which later on would be picked by the library staff from stocks and given to the readers/researchers. (ii) The efficiency of counter service is measured in terms of the time taken, for the readers to get a book. Though this very much depends on the number of persons awaiting, at the

counter, familiarity with the library and staff mostly helps the reader get the service rendered without much waiting. (iii) About 48% of the reference material picked up by the researchers/users was in good condition. 52% of the reference materials were torn, brittle or loosely bound. Almost all the members irrespective of their duration of membership or frequency of visit or duration of stay in the library feel that the staff members were very co-operative and helpful in locating the reference materials. New members owing to their lesser familiarity with the library as well as with the library personnel were not able to use the library resources entirely. 90% of the staff members were co-operative, whereas about 10% were quite indifferent. (iv) Old records were preserved with great care and the general maintenance was good. Users were also satisfied with the overall services offered by the library; however, a few books and records were not properly maintained and were in a critical condition. They positively accept the rules and regulation, which they feel, were more reasonable and amicable to follow.

Selth, Koller, and Briscoe (1992)[45] surveyed under the title "The use of books within the library." The objectives of the study were: (a) To find out the use of the library collection; (b) To find out volumes with use of only one kind; (c) To determine whether relative to each other, monographs and serials; and (d) To know the average amount are range of use. Observational method was used for data collection. The major findings were: (i) In the period covered by the study, 11.2% of the monographs and 13% of the serial volumes did not circulate but had some recorded in-library use; and 19.5% of the monographs

and 12.8% of the serial volumes had no recorded in-library use but circulated. Consequently, a total of 30.7% of the monographs and 25.8% of the serial volumes had one kind of use but not the other, and that weeding based on lack of circulation alone would eliminate from a 1-million-volume library at least 112,000 volumes that had actually been used quite recently (ii) Relative to each other, monographs received much more external circulation, serials more in-house use (iii) In some cases, the number of record in library uses was quite high even when there was little or no external use. Volumes with no circulation had as many as 10 recoded uses within the library; those with only one circulation, up to 13 and (iv) There were striking differences by subject. Books on movies were used much more in-house; those on low, horticulture, zoology, and anatomy were checked out much more frequently.

Lee (2005)[46] stated under the title "The concept of collection from the user's perspective." The main objective of the study was to begin an exploration of what constitutes a collection, to the library user, in the current information environment, where information is increasingly made available digitally. The data collection method was the semi-structured, and interview. The important findings of the study were the following parameters in perceiving of the library collection: instant availability, selectivity, physical collection, catalogue representation, user privilege, material stability, and further parameters for sub collections, including subject and format. Additional components that were important in the users' information environment were personal collections, the Internet, and other institutions' collections. Analysis

revealed that collections provided valuable functions, such as collocating sources for convenience and saving time and money, selectivity, narrowing the search scope to increase precision and ease of use, presenting choices, and assisting in clarification of information need. The user's perspective demonstrates the need for user-centered and flexible, rather than library-centered and fixed, collection structures.

Sahu (1997)[47] made a study under the title "Library use: An Analytical Study." The main objective of the study was to examine the patterns and habits of library users catalogue usage, usage of books and periodicals and time spent in the library. Questionnaire method was used for data collection. The important findings were who consulted the library card catalogue after their searches to ascertain the purpose of consultation of the catalogue. Maximum use of the library was made by an outside users out of a total of 600 visitors only 200 consulted the library catalogue while the least being old users of the library, went straight to the library shelves. The study indicated the user interactions with the libraries by the internal and external users. A real time study of the physical interaction of user with the libraries provide sufficient insight for planning physical layouts of libraries understanding the relevance and utility of various services and information seeking behavior of users. Lists some suggestion expressed by users including an-alphabetical subject Index to be placed near the catalogue and the provision of online and CD-ROM search.

Siddiqui (2002)[48] conducted a study under the title "Use of Library collection in the Jawaharlal Nehru University Library, New Delhi". The important objective of the study was to acquaint the users with the collection available in it. To regulate the use of library collection to the entire satisfaction of its users. To know the working hours of a library are important for evaluating the use of its collection. To find out adequate reading space is an important pre-requisite for an effective functioning of a library. To know the adequacy of library collection; and to know the library services provided by the users. Questionnaire method was used for data collection. There were 303 selected users picked up randomly and the questionnaire prepared for the purpose of study was sent to them through the mail. Out of 303 users, responses were received only 177 users. The important findings of the study were. Working hours of library are important for evaluating the use of its collection during the academic session the JNUL is kept open from 9:00 am to 10:00 am except for five holidays. During the examinations it functions upto midnight, while during the vacation it is open between 9:00 am and 8:00 pm. Regarding reading space 80.4% i.e. a very high percentage of users feel that the reading space of the library is adequate, while 19.6% of the users are not satisfied with it. Because, the furniture, reading space, and seating arrangement in different sections of the library is not adequate according to there needs. The most of the responded has given opinion that 49.8% of users were satisfied with the library collection, while 50.2% users who were not satisfied with the collection in the library.

Biradar, Sampathkuamar and Anil Kumar (2003)[49] surveyed a study under the title "Information use pattern by sericulture: a case study of Karnataka state sericulture research and development institute library, Bangalore." The main objectives of the study were: (i) To know the opinion about the collection of the library; (ii) To study present information use pattern of library resources and services; (iii) To identify the most preferred journals by the scientists and research scholars; (iv) To know the frequency of visits to other libraries; and (v) To suggest new forms, techniques, materials and instruments to meet the information needs of the users. Questionnaire and interview methods were used for data collection. The major findings were; (a) The population consists of more number of scientists belonging to the age group of 41-45 years (50%) and followed by those below 40 years (30%) and above 46 (20%), (b) Majority of scientist belong to male population (80%) and followed by female (20%), (c) The respondents with designation scientist 'B' (40%) was the largest group and the respondents with designation scientist 'D' (18%) was smaller group. This indicates that persons with designation scientist 'B' constitutes the core ----- among the respondents, (d) Result shows reports (52%), conference papers, textbooks, bibliographical sources (each 48%) and primary periodicals (46%) was frequently used sources, (e) Study also shows sericulture scientists not only depend upon their own institute library collection but also a large number of scientists depend upon agriculture libraries (42%) and other sericulture libraries (34%). While special libraries (54%), Public libraries (64%) was occasionally used by many

scientists and (f) shows opinion about the library service. Reference service (64%), Newspaper clipping service (58%) was satisfactory. The services such as reprographic, interlibrary loan, and current Awareness service (each 40%) was not satisfactory.

Pors (1990)[50] attempted a survey under he title "Users, collection use and online searching investigations in Danish Public Libraries." The major objectives of the study were: (a) To know the extent to which users information seeking habits and use of online searching, and (b) To determine whether a public library's process, and was concerned with collection issues and use of the library's materials. The methodologies used in the studies were survey techniques involving questionnaires, interviews and to a certain degree observation. The study, which concentrated on the users information. Seeking habits and use of online searching also employed aspects of experimental methods. The important findings of the study were: (i) Over 50% of the adult population use public libraries regularly and a great proportion of the other half use it occasionally. (ii) It is also interest to note that 20% of the users visit the library without any intent to borrow. They came to read newspapers, ask a question, listen to music or book at an exhibition. The remaining 55 users (13%) did not came to the library to borrow, but may be just to read newspapers, listen to music and to engage in other non-borrowing activities. (iii) It is find that 11% of the adult users had tried online bibliographic database searching. The terminal users recorded that 49% came to the library for a specific book. 55% came for literature about

a subject and 42% came for literature of specific kind. 34% wanted literature of a specific author. The online bibliographic database (BASIS) has never been known for user-friendliness. N fact the system demands quite a lot of tuition to use. (iv) The method applied to collect the data was to draw a systematic sample from the card catalogue to establish collection data. The sample to collect circulation data was a sample of 1500 consecutive issues. It is simple to demonstrate, that a sample of 500 issues can give a statistically sound picture, where we can be 95% sure of the results and where the results only have a margin of error due to the sampling process of 5%. The study chose a sample size of 1500, because the sample included both fiction and non-fiction, so the data dispersion was great and it called for a bigger sample.

Sheena Kumari (1997)[51] attempted a survey under the title "Information use pattern of researchers in pure sciences: a study of the Ph.D. scholars of the university of Kerala". The objectives of the study were: (a) to identify the nature of information requirement and types of sources depended on at the various stages of research; (b) To know the proficiency of researchers in literature search; (c) To ascertain the role of informal communication among scholars in the university and to check the adequacy of the Kerala university library system to meet the information requirements of the researchers. Questionnaire and interview methods were used for data collection. The important findings of the study were (i) Indexing and abstracting periodicals are well used by researchers in Science. (ii) Most of the scholars are use of the services of INSDOC and also libraries other than that of their parent

institutions; (iii) Information sources used in order to keep themselves abreast lf latest information vary from discipline to discipline; (iv) Information sources such as supervising teachers, other fellow researchers, conferences etc. play a considerable role in the information use pattern of researcher. (v) Interpersonal communication among scholars is strong in disciplines such as aquatic Biology, Botany and Zoology.

Sharma and Pant (2004)[52] focused under the title "Information seeking patterns of DRDO Scientists." The objectives of the study were: (i) To identify the various channels through which information was accessed by DRDO Scientists; (ii) To know the utilization of different library services; (iii) To examine the different factors which obstruct information seeking behaviour of DRDO Scientists and when do they consult library staff to choose the required information etc.; (iv) To analyze the relationship between library and scientists. Questionnaire and interview methods were used for data collection. The major findings were: (a) Most of the scientists belong to 40-49 age group; 100% scientists are using library for referring the journals articles; (b) Success rate of getting information from library is 85%; (c) 40.9% of scientists get help of library instructions and 45.45% felt need for library instructions; (d) Current information sources are most common among the scientists 72.72% is attending conference, seminars etc; and (e) 95.45% Scientists are using this modern medium of communication and DRDO Scientists are using databases mostly MEDLINE, OVID and PUBMED where MEDLINE using 81.89% scientists.

Beheshti, Large, and Ravi (2003)[53] carried out a survey under the title "Cost saving to Canadian University and large urban public libraries from their use of national library of Canada MARC Records". The objectives of the study were: (a) To find out cost savings for libraries. (b) To determine the saving s incurred by Canadian University and large urban public libraries as a result of using Canadian printed monograph-cataloguing records generated by the National Library of Canada (NIC) rather than cataloguing these items themselves. Questionnaire and interview methods were used for data collection. The important findings were the Canadian University and large urban public libraries reported in the questionnaire survey that about 10% of their cataloguing is derived from NLC MARC records. The university libraries responses match closely the results of the record-matching methodology used in the project. On average approximately 1,200 records are derived from NLC per year by this category of libraries. Matching a sample of Canadian records to the public libraries collections. The record matching indicates that public libraries on average only use about 3000 NLC records per year, their responses to the questionnaire show on average of more than 2000 records. In both cases, the average number of hits per record derived from NLC is high, indicating that Canadian publications are popular among all libraries. The average annual cost saving for a university library when using NLC MARC records for derived cataloguing for Canadian monographs and federal government documents is 16,400, while the average saving for a large urban public library is $7,800. In general, the reported data show that large

urban public libraries spend significantly less on cataloguing than academic libraries while acquiring a smaller proportion of Canadian, particularly government documents, for their collections. The NLC is saving the libraries approximately $1,725,600 per year. Libraries rely heavily on two additional services provided by NLC. The major single source of the derived MARC records is Amicus Online, and 82% of libraries in the study reported using NLC name and series authorities.

Dali (2004)[54] attempted a survey under the title "Reading by Russian speaking immigrants in Toronto: Use of public libraries, bookstores, and home book collections". The main goal was to present findings that could help librarians become familiar with the Russian speaking sector of their multilingual clientele and improve collections and services offered to Russian -speaking users. Questionnaire method was used for data collection. The important findings of the study were: (i) The majority of the respondents view the public library primarily as a source for borrowing books and other material (ii) Russian- speaking immigrants primarily come to public libraries to borrow or use English- Language materials, mostly professional and educational literature and reference books (iii) To know the more years that have passed since immigration, the more inclined people feel to purchase books in Russian bookstores. (iv) As indicates, the percentage of respondents who purchase English-language books for leisure reading is grater among those who immigrated 11-20 years ago (42.9%) than among the other categories of respondents who immigrated from 1 to 10 years ago. (v)

Immigration has change the picture out 49 respondents, only 71.4% have a book collection at home in Canada, while 98% have a home book collection before immigration, and (vi) The categories of books people brought to Canada from their home book collections. The largest portions of these books are Russian and translated foreign classics, poetry and contemporary fiction, art books and professional literature in Russian. The maller portion of these books is children's books, manuals, encyclopedias, dictionaries and non-fiction books.

Trushanjit Kaur (1997)[55] explained under the title "Use of library catalogue of Punjabi University Library." The major objectives of the study were: (i) Frequency of use of catalogue. (ii) Determine any flow on cataloguing system, and (iii) Attitude of staff. Observation, user's opinion, and interview methods were used for the data collection for this investigation. The important findings were: (a) Users approach through various access points like author, title and subject. Some respondents pointed out the lack of sought headings, cross reference entries, analytical entries. In few drawers the guides outside were missing and this led to utter confusion. Most of the entries were also not updated. (b) It clearly shows that first priority should be given for improving the attitude of staff towards the users. Second priority should be given in promoting the use of classified catalogue by strengthening the alphabetical part of the catalogue. (c) General observation is that alphabetical part is more heavily used than the classified part; it is evident from the soiled condition of the catalogue. It was felt that there is relationship between catalogue use and

degree of instruction that user have had in using the catalogue. (d) The University library does plan and implemental initiation programme in the beginning of the academic session. But because the number of students is large at that time, personal attention cannot be given to each use. These required regular instructions to the users, and the staff members should be readily available for it. (e) The important duty of the library staff to see to it that the resources of the library are brought to the notice of the users for promoting their use. (f) They should help the users not only in locating material. But also teach them the use of the catalogue and explain classification scheme so that they can make maximum use of the documents available in the library.

Rajeev Kumar and Amritpal Kaur (2004)[56] examined under the title "Use of Internet by Teachers and Students in Shaheed Bhagat Singh College of Engineering & Technology: A case Study." The objectives of the study were: (i) To study the pattern of Internet use by the teachers and students. (ii) To identify the different purposes for which the Internet is used by the teachers and students. (iii) To study the various internet services used by the respondents on the Internet for various activities such as teaching, learning and research. (iv) To identify the problems faced by the respondents while using the Internet in the college under study, and (v) To find out the use satisfaction with the Internet facilities provided in the college. Questionnaire method was used for data collection. The major findings were: 1. A majority of the respondents have more than 2 years experience of using the Internet. 2.

A majority of the users of the college use the Internet service daily. 3. The most frequently used places for accessing the Internet are the college (90.0%) and the home (63.3%). 4. A majority of the respondents mainly use the Internet for educational purposes and the least number of respondents use the internet for entertainment purposes. 5. E-mail service is the most preferred service by all the Internet users followed by www. 6. All the respondents browse the desire information from the Internet by using the search engines and Google is the most favorite search engine. Next to it comes Yahoo. 7. A majority of the respondents (i.e. 80.0%) perceive viruses and hackers as one of the major negative aspects of Internet, and 9. A majority of the respondents face the problem of insufficient time slot allotted to per user in the college for Internet use.

References

1 Seth, M.K. DB Ramesh and JR Sahu et al. (1997), "Utility of Library collection in a special library: a case study", *IASLIC Bulletin*, Vol. 42 No.3, pp.107-10.

2 Edwards, Philip M. (2004), "Collection development and maintenance across libraries, archives and museums: a novel collaborative approach", *Library Resources and Technical Service*, Vol.48 No.1, pp.26-32.

3 Maharana, Bulu, Choudhury, B.K. and Dutta, Syemashree(2004), "Collection development of electronic information resources in the R&D libraries of Kalkata City: a survey", *Library Herald*, Vol.42 No.3, pp.235-46.

4 Moin Ahmad and Haridasan, Sudharma, (2005)4, "Study of periodicals collection in National Library of Veterinary Sciences", *Annals of Library and Information Studies*, Vol. 52 No. 2, pp. 41-46.

5 Anita Bali (1997)5, "Collection development in NISTADS Library", *DESIDOC Bulletin of Information Technology*, Vol. 17 No. 2, pp. 15-22.

6 Odini, Cephas, (1994)6, "Collection development: the experience of Kenya Polytechnic Library", *Library Management*, Vol. 15 No. 4, pp.12-16.

7 Kumar, R.P and Pupinder Kumari (2002)7, "Metamorphosed Health information professionals for 21st century: the current scenario and future perspective in Indian Health Science Libraries", IASLIC *Bulletin*, Vol. 47 No. 4, pp. 220-44.

8 Kaula, P.N. (1993)8, "Status of Government of Indian libraries and the challenging task of their development", *Herald of Library Science,* Vol. 32 No.3-4, pp 203-12.

9 Katogi, Masakatsu (1994)9,"National Diet Library", *Herald of Library Science,* Vol. 33 No. 3-4, July-October, pp. 179-82.

10 Veeranjanyulu, K (2003)10, "Automation of Agricultural libraries in Andhra Pradesh: An overview", *Library Herald,* Vol.14 No. 3 pp. 176-181.

11 Shafi, S.M. (1997)12, "Health Science Research Libraries in India: An appraisal", *IASLIC Bulletin,* vol.42 No.3, pp.111-18.

12 Korale, S.R. (1984)13, "National library development and legislation in Sri Lanka: a review", *Journal of Library and Information Science,* Vol.9 No.2, pp.118-44.

13 Thakur, D.S. (2003)14, "Growth and development of the library at National Institute of Financial Management: a case study", *Annals of Library and Information Studies,* Vol.50 No. 4, pp.163-74.

14 Reddy, R. Sammi (2002)15, "Development of central library at REC Warangal under UK-India RECs project 1994-1999: a case study", *IASLIC Bulletin,* Vol.47 no.2, pp.77-95.

15 Gupta, Anuradha (1994), *Government of India libraries: their growth, development and services,* B.R. Publishing Corporation, Delhi.

16 Syed Jalaluddin Haider (1998), "Public libraries and development planning in Pakistan: a review of past efforts and future needs", *Asian Libraries,* Vol. 7 No. 2, pp. 47-57.

17 Ceeney, Natalie (2004), "The British Library: Delivering the world's knowledge: some recent developments', *Interlending & Document Supply*, Vol. 32 No. 4, pp. 234-38.

18 Brindley, Lynne (2005), "The British Library: its origins, development and future", *Interlending and Document* Supply, Vol. 33 No. 2, pp. 76-80.

19 Williams, Sara R. and Phillips, Linda L. (2004), "Collection development embraces the digital age: a review of the literature, 1997-2003", *Library Resources & Technical Services*, Vol. 48 No. 4, pp. 273-84.

20 Subba Rao, C.V. (1993), "National Central Library of India: Proposal for establishment", *Herald of Library Science", Vol.* 32 NO. 3-4, July-October, 181-90.

21 Naidu Hemasundar and Gunjal, S.R. (1993), "Agricultural library building and their structure in India", *Herald of Library Science,* Vol. 32 No 3-4; July-October, pp. 190-98.

22 Howard, Joseph (1994), "Chief resources and services for Agricultural information activities of NAL", *Herald of Library Science,* Vol.33 No. 3-4, July – October, pp. 167 – 70.

23 Nomma, Fumiyasu(1994), "Information services of National Diet Library", *Herald of Library Science*, Vol. 33 no. 3-4, July- October, pp. 179-82.

24 Amritpal Kaur (1994), "Agricultural information services in India: Their growth and present status in the libraries of Agriculture Universities and Research Institute", *Library Herald,* Vol. 32No. 3-4, pp.100-14.

25 Neeha Singh (2004), "A Fresh look at agriculture library services: A need for change", *SRELS Journal of Information Management,* Vol. 14 No. 3, pp. 299-306.

26 Mendelsohn, Henry N. (1997), "Services in Automated libraries: challenges and opportunities", *IASLIC Bulletin*, Vol. 42 pp.27-34.

27 Prodhani, MA and Gautam, JN. (1997), "Library services in the universities in North East India", *IASLIC Bulletin*, Vol.42 No. 4, pp.165-74.

28 Md. Hanifuddin and Md.Harun-ur-Rashid, (2002), "Networking of Agricultural information systems in Bangladesh (BD-AGRINET). A model", *Library Herald*, Vol. 40 No.1, pp.1-19.

29 Singh, S.P. (1994), "Evaluation of collection and services provided by IIT Libraries: User's point of view", *Journal of Library & Information Science*, Vol.19 no.1, pp.1-18.

30 Singh, S.P. (1999), "IIT Library (Kanpur): Users assessment of collection and reader services", *Annals of Library Science and Documentation*, Vol.46 No.4

31 Krishnamurthy, M. (2001), "Development of computer catalogue at Indian Statistical Institute, Bangalore Centre Library", *SRELS Journal of Information Management*, Vol. 38 No. 4, pp. 327-33.

32 Clavel, Genevieve (2004), "National libraries as access points: the role of TEL and MACS", *International Cataloguing and Bibliographical control*, Vol. 33 No. 3, pp. 50-53.

33 Akhtar Hussain and Krishna Kumar (2006), "Use, collection and services of IIRS Library: a survey", IN: Information Management in Digital Library, edited by SS Bandyopadhyay, B Sutradhar and SK Pathak. *Proceeding of the National Conference of Central Library, IIT Kharagpur 2006.* Radical Impression, pp. 643-646.

34 Vijaykumar, M. Padmamma, S. and Sampatkumar B.T (2000), "Information use by Library professionals: a scientometric analysis", *ILA Bulletin,* Vol. 36 No. 1, pp.19-23.

35 Umarov, Absalom. The role of the National Library of Uzbekistan in its assistance to users. IN: National Library Services, edited by H.K. Kaul. *Proceedings of the International Conference on National Library Services (ICONLIS 2004). Kakata*: The National Library, Department of culture, Government of India., 2004. pp.78-80.

36 Ramesha and Kumbar, B.D. (2004), "Evaluation of circulation services: a case study of university libraries of Karnataka state", *Library Herald,* Vol. 42 No. 3, pp. 203-18.

37 Singh, Rajesh (1997), "User Survey: findings and Suggestions", *IASLIC Bulletin,* Vol. 42 No. 4, pp.179-84.

38 Choukhande, Vaishali G and Kumar, P S G. (2004), "Analytical study of information needs and use patter of faculty members and research scholars of Amrawati University", *ILA Bulletin,* Vol.40 No.3, pp.23-31.

39 Ahmad Elhafiz Ibrahim (2004), "Use and user perception of electronic resources in the United Arab Emirates University (UAEU)", *Libri,* Vol.50 No.1, pp.18-29

40 Ashu Shokeen,and Kaushik, Sanjay K. (2002), "Information seeking behaviour of social scientists of Haryana Universities", *Library Herald*, Vol.40 No.1, pp.28-35.

41 Seth, M.K., Ramesh, D.B. and Sahu, J.R. (1997), "Utility of library collection in a special library: A case study", *IASLLC Bulletin*, Vol.42 No.3, pp.107-10.

42 Aina, Joseph O. (1997), "Usage of resources in the Ilorin branch of the National Library of Nigeria", *Herald of Library Science*, Vol.36 No.1-2, pp.73-6.

43 Lohar, M.S and Kumbar, Mallinath (2002), "Use of library facilities and information resources in Sahyadri College, Shimoga (Karnataka): a study", *Annals of Library and information Studies,* Vol. 49 No. 3 pp.73-87.

44 Senthilkumaran, P. and Vadivel, V. (2001), "Availability and utility of Tamil Nadu archives library", *SRELS Journal of Information Management*, Vol. 38 No. 3, pp.255-66.

45 Selth, Jeff, Koller, Nancy and Briscoe, Peter (1992), "The use of Books within the Library", *College & Research Libraries*, Vol. 53 No.3, pp. 197-205.

46 Lee, Hur-Li (2005), "The concept of collection from the user's perspective", *Library Quarterly*, Vol. 75 No.1, pp. 67-85.

47 Sahu, J.K. (1997), "Library use: an analytical study", *Annals of Library Science and Documentation*, Vol. 44 No. 2, pp. 73-77.

48 Siddiqui, Asif Fareed (2002), "Use of Library Collection in the Jawaharlal Nehru University Library", *IASLIC Bulletin*, Vol. 47 No. 3, pp. 149-161.

49 Biradar, B.S., Sampathkumar, B.T. and Anilkumar, M. (2003), "Information use pattern by sericulture scientists: a case study of Karnataka state sericulture research and development institute library", *SRELS Journal of Information Management,* Vol. 40 No.3, 255-65.

50 Pors, Niels Ole (1990), "Users, collection use and online searching: investigations in Danish Public Libraries", *International Journal of Information and Library Research;* Vol. 2 No. 2, pp. 63-76.

51 Sheena Kumari, P.K. (1997), "Information use patter of researchers in pure sciences: a study of the Ph.D. Scholars of the University of Kerala", *Kelpro Bulletin*, vol. 1 No.1, pp.27-39.

52 Sharma, Hemant and Pant, Prem Prakash (2004), "Information seeking patterns of DRDO Scientists", *ILA Bulletin*, Vol. 40 No. 3, pp. 19-22.

53 Beheshti, Jamshid, Large, Andrew and Ravi, Pat (2003), "Cost savings to Canadian University and large urban public libraries from their use of national library of Canada MARC Records", *Library Resources & Technical Services*, Vol. 47 No.2, pp. 44-55.

54 Dali, Keren (2004), "Reading by Russian speaking immigrants in Toronto: use public libraries, bookstores, and home book collections", *The Internectional Information & Library Review*, Vol. 36 No. 4, pp. 341 -66.

55 Trishanjit Kaur. 'Use of library catalogue of Punjabi University Library'. Library and information science. Sources: Library and Information Science Parameters and perspectives editor R.G. Prasher, pp. 526-532. Volume 2.

56 Rajeev Kumar and Amritpal Kaur (2004), "Use of Internet by Teachers and students in Shaheed Bhagat Singh College of Engineering & Technology: a case study", *Journal of Library and Information Science*, Vol. 29 No. 1-2, pp. 81-91.

Chapter-4

Profile of the Libraries under of Study

CHAPTER-4

PROFILE OF LIBRARIES UNDER STUDY

This chapter presents the profile of the libraries under study.

4.1 Indian Agricultural Research Institute (IARI)

IARI was originally established in 1905 at PUSA (Bihar) with the financial assistance of an American philanthropist, Mr. Henry Phillips. The Indian Agricultural Research Institute (IARI) started functioning from New Delhi since 1936, when it was shifted to its present site, after a major earthquake damaged the institute's building at PUSA.

The IARI is the country's premier national institute for agricultural research, education and extension. It has the status of a Deemed University under the UGC Act of 1956, and awards M Sc and Ph D degree in various agricultural disciplines.

The institute has one of the largest Agro Biological Libraries in the world, with the largest and biggest collection of agro biological literature in the country. Scientists from various regions visit the library for literature search.

Today, the library has over 7,00,000 highly specialized research publications on agriculture and related subjects consisting of books, monographs, reference materials, journals, advances and annual reviews, abstracting and indexing journals, translated periodicals, statistical and data publications, bulletins, reports, pamphlets, reprints, news clippings and post graduate

theses of IARI and ICAR research fellowship theses. The collection gets enriched annually at the rate of 8,000 to 9,000 documents. The library has procured 11,000 serials and 4,000 current serials from 80 countries through gifts and exchanges. Apart from these, the library has e-resources also in the form of online journals and several databases of subject concerned.

4.1.1 Library

4.1.1.1 Objective of the Library

- To conduct basic and strategic research with a view to understand the various processes, in all their complexity and to undertake needs based research, that leads to crop improvement and sustained agricultural productivity in harmony with the environment.
- To serve as a centre for academic excellence in the area of post-graduate and human resource development in agricultural sciences.
- To provide national leadership in agricultural research, extension and technology assessment and transfer by developing new concepts and approaches, and serving as a national referral point for quality and standards.
- To develop information systems, add value to information, share this information nationally and internationally and serve as a national agricultural library and database.

4.1.1.2 Services of the library

IARI is the largest research institute in the field of agricultural sciences in India. This institute has a large collection of agrobiologic literature, which has

been in use for a long time by various scientists. IARI is a centre for the development of varieties of new crop plants. The research activities are carried out under the various schools and regional stations.

The library has several databases allied to agriculture, making possible the availability of required information to users all over the country besides providing e-mail and internet facility.

4.1.1.3 Databases

AGRIS, AGRICOLA, CAB AGRICULTURAL BIOTECH DATABASE etc. are the major databases available in the library. Biotechnology database is developed by IARI and it contains published literature on Indian works in the field of plant molecular biology, plant tissues culture and photosynthesis.

Information can also be retrieved from the CD-NET, established at the National Agricultural Library of the institute.

The library also offers facilities in the form of photocopy/Xerox and microfilm copies and provides 1,50,000 photo pages from its collection annually.

4.1.1.4. E-mail and Internet Services

The Centre has an established range of internet services through IYA-VSAT, in addition to RENNIC services already available at the centre for e-mail facility.

Apart from these services the library also has Lending services, reference services, and journal and periodical services etc.

The IARI library is one of the largest and the finest agrobiological libraries in South East Asia housing a total of 6 lakh publications, including 1 lakh books/monographs, 3,50,000 journal volumes, 45,000 bulletins, 15,000 post graduate theses, 10,000 pamphlets, 30,000 news clippings, 30,000 reports, and other reference materials. The Library has 2000 members, viz., students, scientists and technical staff. It also serves about 8,000 visitors every year. The Library functions as the depository of FAO, IDRC and AVRDC publications, and also as the National Depository for CGIAR institutes' publications.

4.1.1.5 Acquisition Programme

4.1.1.5 .1 Books

In the year 2006, the Library procured 583 publications, of which 310 were in Hindi and 273 in English, costing Rs.1, 14,138. The Library also acquired 205 gift publications, 165 IARI theses, 7 ICAR/RFT theses, and 214 ICAR award winning theses documents.

4.1.1.5.2 Serials

The Library procured 806 journals/serials through subscription, gifts and exchanges. It subscribed to 86 foreign journals (out of which 45 had online access) and 252 Indian journals and 54 advances/annual reviews. Exchange relationship was developed with 67 institutions/parties globally and nationally by sending annual reports/ Indian journals and society publications. One hundred fifty-seven (157) annual/scientific/technical reports of different institutions and 137 bulletins were received by the

Library. The expenditure on Serial Acquisition Programme from Plan was Rs.78, 57,421.

4.1.1.6 Documentation Activities

4.1.1.6.1 AGRIS project

IARI Library was declared an input centre for national agricultural research database (NARD) under AGRIS Project. The Library was assigned the job of scanning articles from 10 most important Indian journals. The input was done in the ISO format, using AGRIN methodology. During the period, 434 articles were scanned, processed and sent to DIPA, ICAR for inclusion in AGRIS Index.

4.1.1.6.2 Development news in agriculture

Around four thousand six hundred eighty (4680) news papers were scanned and 28 news items pertaining to IARI as well as ICAR were sent to the Director, IARI and the Principal Scientist (ITMU).

4.1.1.6.3 Document processing

In all, 1326 documents consisting of books, bulletins, IARI post-graduate theses and Hindi books were classified and catalogued.

4.1.1.7 Resources Management

4.1.1.7.1 Binding of publications

About 4850 volumes consisting of 80,000 loose issues of journals, reports and bulletins were bound and 4000 volumes were accessioned.

4.1.1.7.2 Reference, circulation and stack maintenance

Apart from approximately 2000 registered members, the Library served approximately 125-130 users, who consulted approximately 2000-2500 documents everyday. During the period 2006-2007, 18000 publications were issued to its members. In all, 150 documents were issued under Inter Library Loan System to various institutions including NISCAIR.

4.1.1.7.3 Reprography services

In the above period also, the Library provided 32,572 pages of photocopies of scientific and technical literature officially. One key cord counter for updating of Resograph GR 1750, one Toshiba Color Photocopier Model Studio 351C and one Toshiba Studio 452 digital photocopier were purchased during this period.

4.1.1.7.4 CD-ROM workstation

89,048 references were downloaded by users consisting of scientists, and students of IARI, and visitors from different states of India. The cost based references downloaded were 29,499, which generated revenues amounting to Rs.68,874. The scientists of IARI accessed through the Intranet (Local Area Network).

4.1.1.7.5 C-DAC Project

A memorandum was signed with C-DAC (Ministry of Information Technology) on 4th September 2004, to digitize old documents. During this period, 17,93,213 pages of 2673 publications published before 1950 and not

covered under copyright Act, were scanned. They can be accessed through software developed by C-DAC.

National Agricultural Library Activities under Agricultural Knowledge Initiative (AKI) Programme

A meeting was organized on July 27, 2006 under an Indo- US Agricultural Knowledge Initiative (AKI) for cooperation between USDA, and the National Agricultural Library for (A) exchange of online information, (B) document delivery services, and (C) exchange of professional experts in the field between the countries. Mr. Ryan Moore from USDA NAL, USA attended the meeting and chalked out the various steps for the library partnership between the countries.

A brain storming session under AKI programme was organized at G.B.Pant University of Agriculture & Technology, Pant Nagar from November 4 to 5, 2006 to discuss various aspects of the programme. The following recommendations/ suggestions were given for successful implementation of the programme:

- Compilation of Union Catalogue: (a) constitution of a Technical Advisory Committee, having expertise, from Library and Information Technology to set up standards and formats for exporting and importing of data from different libraries to NAL to develop a web enabled Union Catalogue, (b) purchasing of compatible software for the development of Union Catalogue, (c) experts from organization like

DELNET, INFLIBNET, NIC, C-DOT and other organizations, ought to be included in the Technical Advisory Committee, and (d) development of Union Catalogue may be completed through outsourcing.

- Exchange of on-line information
- Document delivery services
- Exchange of professional experts in the field between different countries, particularly the USA
- Holding of workshops/seminars at different locations
- Creating web-enabled OPAC with the existing database by providing necessary infrastructure
- Publishing an "Indian Agricultural Library Information Newsletter" on the activities of agricultural libraries
- Development of a portal on Gateway of Indian Agricultural Newsletter" on activities of agricultural library Information pertaining to information/services/ resources available in the National Agricultural Library under AKI programme

4.1.1.8 Training Activities

A Training Cell was developed with the financial support from LIS-NATP. The following training services were organized by the Cell during the period under report:

- ❖ Scopus demonstration for scientists of IARI
- ❖ OVID database user Training Awareness Programme
- ❖ White Board for Interactive Learning Programme for learning English language

The Training Cell is also being used for practical classes of the students of USI, and AIS course, and various other trainings/demonstrations of the Institute, as well.

4.2 NATIONAL MEDICAL LIBRARY (NML)

The library was initially established as a departmental library having a very small collection of books for the use of officers of the erstwhile Directorate General of Indian Medical Sciences (DGIMS) in British India. The DGIMS was later merged with the office of the Public Health Commissioner in India, in 1947, to form the Directorate General of Health Services (DGHS), and the library became DGHS library. Realizing the need for a central library to support academic, research and clinical work for biomedical professionals in the country, the DGMS library was developed gradually, and declared as a Central Medical Library in 1961, and subsequently as the National Medical Library on 1st April 1966.

The four storied building of the Library has a carpeted area of about 70,000 sq ft, situated near the All India Medical Institute of Medical Sciences, Ansari Nagar, Ring Road, New Delhi.

The library has grown from a very small collection of books to one of the largest collections of Biomedical Literature in Asia. Now it has its own building with reasonably good infrastructure and other facilities and provides normal library and information services to a large number of Biomedical/health sciences professional in India and south-east Asia.

The document collection of NML is its great asset, the largest in the Southeast Asia. It has 3.6 lakh volumes of books, reports, bound volume of journals and other literature, and adds about 3000 latest books every year. It also subscribes to 1860 current periodicals. The library has a good collection of 19th century literature as well. Books collection is divided into pre-1977 and 1977 onwards, and is classified according to the Dewey Decimal Classification Scheme. Bound volumes of journals are divided into pre-1992 and post - 1992.

4.2.1 Administrative setup

Administratively, the National Medical library is treated like any other section of the DGHS and all the approvals/decisions making is done in the DGHS headquarters. The in-charge of National Medical Library reports to the DGHS through Dy. Director General (M) and submits all papers, proposals and files to the DGHS/MH&FW through him.

4.2.2 Membership

Members of the following institution can become the member of the library.

- Staff of the Medical Colleges

- ❖ Medical Institutions in Delhi,
- ❖ Staff of the Govt. Hospital in Delhi,
- ❖ Directors of the Health Services
- ❖ Medical services of the state government
- ❖ Members of the Medical and Allied Professionals engaged in private practice or working in private hospitals/clinics.

Application forms for membership may be obtained from the library. It must be forwarded through the office of the applicant. The forwarding officers will be responsible for loss of any publication by the members of their staff. They will also procure a "no dues Certificate" from the library before relieving any members of their staff. In case of members who are working in a private hospital/clinic etc their application should be submitted along with the bank draft of Rs. 5000/- as refundable security deposit.

4.2.3 Information about Regional Libraries

The NML has setup a network of health science libraries in India. It has the support from WHO, has identified 6 Regional Medical Libraries (RML) and 8 Resource Medical Libraries (RL) in the country.

4.2.3.1 Regional Medical Colleges

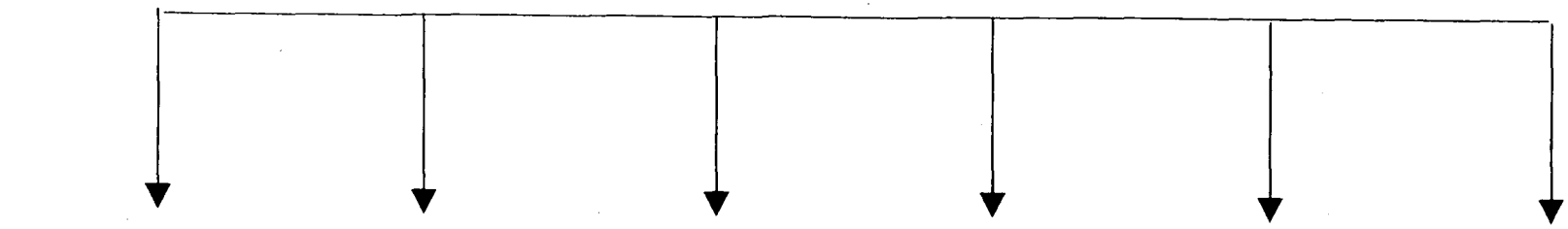
- ❖ SMS Medical College, Jaipur (North)
- ❖ Grant Medical College, Mumbai (West)
- ❖ Institute of Medical Science, BHU, Varansi (central)

- ❖ TN Dr MGR Medical University, Chennai (South)
- ❖ All India Institute of Hygiene and Public Health, Calcutta (East).
- ❖ Regional Medical Institute, Imphal (North West).

4.2.3.2 Resource Libraries (8)

- ❖ BJ Medical College, Ahmadabad
- ❖ MG Institute of Medical Sciences, Wardha
- ❖ Govt. Medical College, Nagpur
- ❖ KG Medical College, Lucknow
- ❖ Govt. Medical College, Gwahati
- ❖ Gandhi Medical College, Bhopal
- ❖ SCB Medical College, Cuttack
- ❖ Central Research Institute, Kasauli

Information regarding Regional libraries



SMS Medical College, Jaipur (State)

Grant Medical College, Mumbai (West)

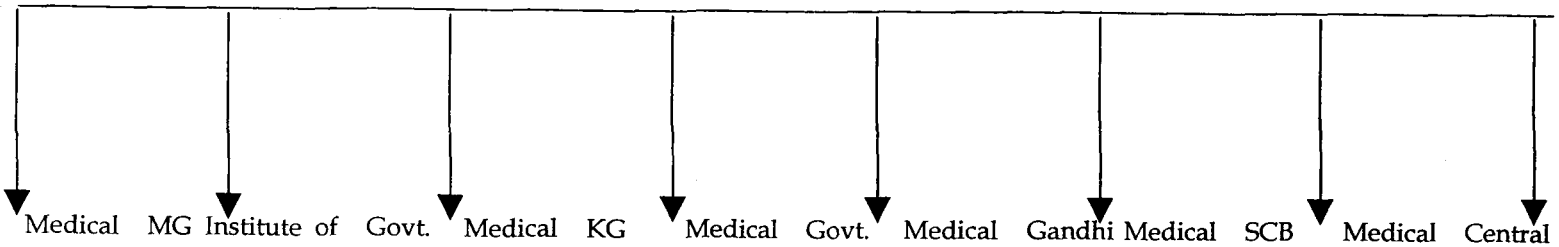
Institute of Medical Science, BHU, Varansi

TN Dr MGR Medical University, Chennai

All India Institute of Hygiene and Public Health, Calcutta

Regional Medical Institute, Imphal (North West)

Information regarding Resources libraries



D.J. Medical College, Ahmadabad

MG Institute of Medical Sciences, Wardha

Govt. Medical College, Lucknow

KG Medical College, Lucknow

Govt. Medical College, Gwahati

Gandhi Medical College, Bhopal

SCB Medical College, Cuttack

Central Research Institute, Kasauli

These aforementioned libraries have been supplied with equipments like micro-computer, CD-ROM Drive. MEDLINE database to all RMLs and a photocopier to all RLs has also been granted. A grant in aid @ Rs. 1.20 lakh each to RML and 0.75 lakh each, to all RLs was also released to strengthen their document collection.

4.2.4 Services

4.2.4.1 Reference and Consultation Service

The library opens on 359 days of the year, and beyond normal office hours (0900-2000 hrs during March-October and 0900-1900 hrs during November-February). It provides free access to all health science professionals for reference and consultation. It is one of the few heavily used libraries in New Delhi. Over 200 users including PG students, teachers, research scholars, practicing doctors/surgeons, health administrators, drug manufacturers and pharmacists visit the library everyday. The library also receives a number of reference queries and provides quick reference service on telephone.

4.2.4.2 Lending Service

Borrowing of books is allowed to registered members only. All doctors and teachers working in government hospitals and medical colleges in Delhi can become members. Private practitioners who are residents of Delhi can also become members by depositing a refundable security deposit of Rs. 5000.

4.2.4.3 Reprographic Service

The library has the largest collection of current as well as bound volumes of journals in biomedical sciences, and receives a number of requests from Delhi and other parts of the country for supplying copies of journals articles, book chapters etc. for individual study and research. Photocopies of documents not available in NML collection are also obtained from other sources through WHO. It is estimated that NML supplies about ten lakh pages of photocopies every year. The service is priced at 0.40 paise per page for users visiting the NML through private operator and Re 1/- per page for outstation requests.

4.2.4.4 Information Retrieval Service

NML provides information retrieval services to its users on topics of their interest from the following databases:

- MEDLINE
- HEALTH STAR
- EMBASE
- AIDS LIBRARY
- CANCER CD

A list of references with annotations/abstracts is provided free of charge on request. Users are also helped and searches are conducted for them.

4.2.4.4 Documentation Services

NML brings out the following current awareness bulletins:

a. Highlights to Current Health Literature (monthly)

b. Chetna (suspended)

c. AIDSDOC (suspended)

4.2.5 National Audio-visual Centre

The National Audio-visual Centre has been set up to promote the use of audio-visual sources of information in biomedical/health sciences. It has six single viewing booths, a medium sized conference room for group viewing, an overhead projector, a slide projector and a collection of about 300 video cassettes.

4.2.6 Training Activities

NML, being a National Library, has been organizing training programmes for medical/health science librarians since 1980. It has organized 16 orientation courses in Health Sciences Librarianship of 5-6 weeks duration each and trained over 175 librarians from different parts of the country. Besides, it has also conducted several training courses on specific topics like MEDLARS searching, indexing and abstracting etc in different regions of the country. A National Workshop was held in May 1997 to evaluate these courses and develop new courses.

4.2.7 Network Activities

NML is connected to DELNET. It has dial-up (SLIP/PPP) connectivity to the INTERNET which provides world wide access to a large number of information sources to widen the range of its services.

4.2.8 Proposed Modernizational and Developmental Activities

In order to sustain and strengthen present activities and to improve and augment its resources, services and stature, it has been proposed to undertake the following developmental activities:

Computerization of house-keeping operations, i.e. to set up an integrated automated system covering book acquisition, cataloguing, online public access catalogue (OPAC), bar-coding and circulation of books, and serials control is important. The present manual catalogue records will be merged into the new computerized system.

(i) NML's catalogue of books and periodicals could also be put on to the internet which would make them searchable from anywhere in the world.

(ii) Conversion of present single user CD-ROM work stations into a multi user system.

(iii) Acquisition of more bibliographical and full-text databases on CD-ROM to widen the scope of information services being provided by the NML.

(iv) Strengthening of audio-visual center with facilities for use of multimedia products/sources of information including self education material.

(v) Strengthening and augmenting resources of the 6 Regional Medical Libraries (RML) and 8 Resource Libraries (RL), and identification of more medical libraries in the country. Providing necessary support to make the overall network of health science libraries more effective.

(vi) Development of computer communication network among the RMLs, RLs, Documentation Centres, Information Centres and other important existing networks.

(vii) Development of a database of Indian Medical/Health Science Literature.

(viii) Compiling of Union Catalogue of health science periodicals in India.

(ix) Compiling of directory of Health Science libraries in India.

(x) Compiling of union catalogue of theses/dissertations in Medical/Health Sciences submitted to India Universities.

4.3 National Science Library (NSL)

The National Institute of Science Communication and Information Resources (NISCAIR) came into existence on 30th September 2002 with the merger of Indian National Scientific Documentation Centre (INSDOC) and National Institute of Science Communication (NISCOM). Both NISCOM and INSDOC the two premier Institutes of the Council of Scientific and Industrial Research (CSIR) were devoted to documentation and dissemination of Science & Technology(S&T) information.

National Institute of Science Communication and Information Resources (NISCAIR) is one of a kind institution in the country for providing all kinds of S & T information. Its role on the national information resources front is fulfilled through National Science Library. It has a comprehensive collection

of S & T publications of the country and offers its services on a major scale. NISCAIR also acts as a referral and clearinghouse for the best utilization of the existing collection in the country. Thus it extends its operation base to the national scale.

In order to provide a wide range of S & T documentation and information services, the National Science Library (NSL) was set up in 1964. One of the basic objectives of NSL was to build a comprehensive collection of S & T publications in the country, and also to offer services on a national scale. The acquisition policy of National Science Library aims to acquire all important S&T publications published in the country and strengthen its resource base as far as possible for foreign periodicals by acquiring journals on CDROM or other electronic form. NSL subscribes to almost all Indian S & T periodical publications, and around 547 foreign S&T periodicals. During the year, 2006-2007, NSL continued its collection building programme. The library has more than 2, 25,000 monographs and bound volumes of periodicals. NSL continues to subscribe to PCT (Patent Cooperation Treaty) minimum journals. The library has also started giving e-access of more than 5000 foreign periodicals to its patrons. The rich collection of NSL continues to support other activities of NISCAIR, like compilation of Indian Science Abstracts, Medicinal & Aromatic Plants Abstracts

(MAPA), Contents, Abstracts and Photocopy Service (CAPS), Document Supply Service, etc. During the above year, 258 books were acquired and catalogued. A total of 777 photocopy orders were received and 37816 pages

were provided to users. With regard to the serials, 1055 Indian and 540 foreign periodicals were added and ISSN was assigned to 162 periodicals. The library registered 6854 visitors in 2006-2007

4.3.1 Membership

Membership of the library is open to any Indian institute. To became a member, the institution has to pay annual membership of Rs.1000/and refundable caution deposit of Rs.5000/-. At present **NISCAIR** have approximately 6854 visitors per year.

4.3.2 Network Projects

Recent initiatives: NISCAIR has been making all possible efforts to cop growth in information and communication technology, and to apply its benefits to the betterment of the society. NISCAIR has the distinction of being the institute of three major network projects namely:

- Traditional Knowledge Digital Library (TKDL)
- CSIR Journal Consortium
- National Science Digital Library

4.3.2.1 Traditional Knowledge Digital Library (TKDL)

India is endowed with immense traditional knowledge, which is either undocumented or available only in ancient classical literatures, often inaccessible to the Information Managers and Patent Examiners. Documentation of this existing knowledge, available in the public domain, on

various traditional systems of medicine, has become imperative to safeguard its sovereignty and protect it from being misused in the patenting of non-original inventions. To address this problem of grave national concern, NISCAIR and the Department of Indian Systems of Medicine and Homoeopathy (ISM&H) have entered into an agreement for establishing a Traditional Knowledge Digital Library (TKDL) on Ayurveda. NISCAIR is the implementing agency for this project. Its responsibilities include providing user-friendly software, setting up TKDL hardware and software platform for data entry, digitizing images of Slokas, making a directory on Traditional Knowledge Resource Classification (TKRC), populating and hosting the database on web/portal. TKDL will be available in English, German, French, Spanish and Japanese since these languages account for more than 98% of the international patent applications. This will give legitimacy to the existing traditional knowledge and enable protection of this information from getting patented by the fly-by-night inventors who acquire patents on our traditional knowledge systems. The project is progressing very well.

In the first phase TKDL has taken up Ayurveda but as a whole it would encompass, in addition to Ayurveda, Siddha, Unani, Yoga, Naturopathy and Folklore medicine.

Since times immemorial India had a rich collection of traditional ways and means to treat various diseases. This knowledge has generally been passed down by word of mouth from generation to generation. Some of it has been described in ancient classical and other literature often inaccessible to the

common man. A number of foreign countries are evincing interest in our plants and medicinal uses of them described in ancient texts and treaties. A number of such medicinal usages of plants are being patented by others and claimed as innovation.

4.3.2.2 CSIR Journal Consortium

NISCAIR is the nodal organization for developing a "Consortium for CSIR Laboratories for Accessing e-journals". The activity shall range from creation to monitoring of access facility of scientific periodicals. To start with, an agreement has been signed with, e-journal publisher, M/s Elsevier Science for a period of four years for 1200 journals. Under this scheme, CSIR scientists shall be able to access these journals and download material for their use. Such access to world wide journal resources will play a very vital role and strengthen research and development in CSIR laboratories, thus leading to knowledge generation which will prove useful for socio-economic development of the country. The objectives are:

- To strengthen the pooling, sharing and electronically accessing the CSIR library resources.
- To provide access to world S&T literature to CSIR labs.
- To nucleate the culture of electronic access resulting into evolution of digital libraries.

So far, CSIR has entered into agreement with 11 publishers to access about 3316 international journals across various labs. Details of these 11 e-journal publishers are given in the table below:

Sr.No.	Publisher	No. of subscribing labs	No. of labs for e-access	No. of Journals for access	No. of subscribed journals
1	Elsevier	38	All	1500	399
2	Springer	32	All	800	120
3	American Institute of Physics	8	8	16	17
4	Blackwell	23	23	355	55
5	American of Civil Engineering	8	8	30	20
6	American Chemical Society	24	All	41	31
7	John Wiley	28	All	374	84
8	Cambridge University Press	11	11	74	18
9	Oxford University Press	15	All	69	28
10	American Society of Mechanical Engineering	6	6	20	19
11	Royal Society of Chemistry	18	All	37	22
	Total:11			**3316**	**813**

4.3.2.3 National Science Digital Library:

National Science Digital Library (NSDL), the first of its kind in the country, envisages providing e-access to digital resources to students. The basic aim of

the project is to contribute to the national development by reaching onto students in remote areas, by providing them e-learning facilities and access to quality curriculum-based material at a level similar to that available to students in metros. The project was approved as a core network project under the Tenth Five-Year Plan (TFYP) in April 2004, with a budget allocation of Rs. 44.23 crore with NISCAIR as the implementing institute. University Grants Commission (UGC) and Ministry of Human Resource Development (MHRD) are active participants. In the first phase of the project, NSDL focused on students at undergraduate level and above in Indian universities and colleges. To begin with, it was proposed to create original and user specific content by an identified panel of experts, for about 300 e-books for undergraduate students. The activities carried out during 2006-07 include organization of meetings the working groups in various disciplines for identification of e-books, their contents, identification of authors for writing/reviewing chapters in various e-books, processing of tenders for software solution, site preparation and IT infrastructure for data centre and multi-media e-objects creation.

4.3.3 Content Creation

Nineteen working groups were constituted based on the UGC Model Curriculum for as many disciplines identified for creation of e-course at undergraduate level. Meetings of the various working groups were held to finalize the topics on which e-books were to be written and also to identify the authors to whom the work could be allocated. Consent was sought from the

identified authors for writing the chapters and subsequently chapters, were allocated to the authors. A total of 992 chapters of 182 books for 17 disciplines have been allocated. A total of 475 chapters have been received, 160 chapters validated and more than 100 chapters have been finalized.

The NSDL team also created sample multimedia learning objects to help in evolving guidelines for important stake holders in multimedia content creation. The team also finalized the Guidelines for Multimedia Content Creation to aid the, validators and multimedia specialists in content creation. Sample e-books have been created. Further modalities of the project are under final process.

4.3.4 Dissemination of Information to scientific community

To provide communication links among members of the scientific community engaged in research, **NISCAIR** published 19 scholarly journals of international repute covering almost all major disciplines of science and technology.

It has carried out publications of 17 primary, and 2 secondary scientific journals which are mentioned as follows:

1. Journal of Scientific and Industrial Research (JSIR, monthly)
2. Indian Journal of Chemistry A (IJC-A, monthly)
3. Indian Journal of Chemistry B (IJC-B, monthly)
4. Indian Journal of Experimental Biology (IJEB, monthly)

5. Indian Journal of Pure & Applied Physics (IJPAP, monthly)

6. Indian Journal of Biochemistry & Biophysics (IJBB, bi-monthly)

7. Indian Journal of Engineering & Material Sciences (IJEMS, bi-monthly)

8. Indian Journal of Chemical Technology (IJCT, bi-monthly)

9. Indian Journal of Radio & Space Physics (IJRSP, bi-monthly)

10. Journal of Intellectual Property Rights (JIPR, bi-monthly)

11. Indian Journal of Marine Sciences (IJMS, quarterly)

12. Indian Journal of Fibre & Textile Research (IJFTR, quarterly)

13. National Product Radiance (NPR, bi-monthly)

14. Indian Journal of Biotechnology (IJBT, quarterly)

15. Indian Journal of Traditional Knowledge (IJTK, quarterly)

16. Annals of Library and Information Studies (ALIS, quarterly)

17. Bhartiya Vaigyanik evam Audyogik Anusandhan Patrika (Hindi) (BVAAP, half-yearly)

18. Medicinal and Aromatic Plants Abstracts (MAPA, bi-monthly)

19. Indian Science Abstracts (ISA, fortnightly)

4.3.5 Abstracting Journals

4.3.5.1 Indian Science Abstracts

The Indian Science Abstracts (ISA) is a fortnightly abstracting journal, which has been reporting scientific work done in India since 1965. Original research

articles short communications, review articles, and informative articles published in scientific and technical periodicals, proceedings of conferences and symposia, monographs and other publications, as well as patents, standards and theses are reported in the ISA.

4.3.5.2 Indian Science Abstracts on CD-ROM

ISA on CD-ROM is a cumulative database of nearly 2 lakhs Indian science abstracts covering the period from January 1990 to December 1999. The database is searchable by a variety of parameters such as keyword, author, corporate author, ISA issue number & year of publication, source journal, and type of document. The retrieval software is Windows based and is user friendly.

ISA on CD-ROM is an excellent replacement for hardcopy of ISA leading to considerable saving of shelf space, and also an electronically searchable collection on Indian Science.

4.3.5.3 Medicinal and Aromatic Plants Abstracts (MAPA)

It is a bimonthly abstracting journal which covers global current literature on all aspects of medicinal, aromatic and allied plants. It is produced by scanning, selecting and abstracting relevant papers from about 600 primary journals published from about 65 countries and in 25 languages, research reports, conference proceedings and patents. Each of the 700 or so abstracts selected for every issue contains names of author(s), their affiliation, title of the paper, bibliographical details, article language, number of references and

an informative abstract. Each issue and volume of MAPA is supported by a keyword index. From 1988 onwards, MAPA is available on CD-ROM also

4.3.5.4 Information Resource

The services and activities of NISCAIR are drawn from rich external information sources. These are utilized in discharging various activities. These sources are systematically consolidated and maintained over the years and all are updated regularly. The information resources are mentioned as follows:

- ❖ The Wealth of India
- ❖ Bharat ki Sampada
- ❖ Raw Material, Herbarium and Museum

4.3.5.4 .1 The wealth of India:

An encyclopaedic publication, The Wealth of India—Raw Materials, launched in 1942, describes plant, animal and mineral resources of India. It is acclaimed to be a reference standard for information on raw materials available in India. The quintessence of information on A to Z entries of raw materials is covered in 11 volumes along with two supplements. The initial two volumes of the series were taken up for revision and enlargement, published in the resultant three volumes plus a supplement of the Revised Series, which boasts of an elaborate user based index as an additional feature. At this stage, it was decided to go digital and three CD-ROMs were brought out during 1996-1997. But because the CD is not a substitute for books, particularly for Indian

readership, all the information updates, suitably augmented and modified, were processed to bring out the Wealth of India – First Supplement Series in print form.

4.3.5.4 .2 Bharat ki Sampada

Bharat Ki Sampada-Prakritik Padarth is a scientific encyclopaedia of raw materials in Hindi language. This encyclopedia, launched in 1969, is the Hindi version of Wealth of India - Raw Materials covers in detail information on the raw materials of India in terms of plants, animals and minerals. Ten volumes and two supplements of Bharat Ki Sampada have already been published. Comparative study of already published volume of Wealth of India vis-a-vis Bharat Ki Sampada revealed that 156 articles of Wealth of India have been left out from publication in various volumes of Bharat Ki Sampada. These 156 articles have been segregated in two parts. Volume XI shall cover 110 articles whereas remaining 46 articles shall form Volume XII. In addition, Volume XII will also have a cumulative index. Out of 110 articles scheduled for Volume XI, 97 articles have already been updated, translated and edited. These articles have also been data entered and the process of preparation of the manuscript is underway.

4.3.5.4 .3 Raw materials Herbarium and Museum (RHMD):

The Herbarium and Museum of Economic Raw Materials was set up in 1978 to cater to the needs of scientists, researchers, traders, crude drug dealers, entrepreneurs, industry, students and the public. The acronym RHMD (Raw

Materials Herbarium & Museum, Delhi) was allotted to it by the International Association of Plant Taxonomy (IAPT), New York in 1984. RHMD houses authentic samples of economically important raw materials of plant, animal and mineral origin of India. At present, it holds 6563 plant specimens; 190 zoological specimens; 207 mineral samples; and 2050 carpological samples (crude drugs like roots, seeds, bark, wood, flowers, etc.). The activities of collection, identification, preservation of herbarium specimens and carpological samples are under continuation to make the herbarium more comprehensive and viable.

RMHD also acts as a repository of photographs, illustrations and transparencies of raw materials of economic importance. This facility is used for reproduction of photographs and slides for publication and presentations by NISCAIR staff, and also against payment for outside agencies. RMHD at present holds 3550 such photographs and 700 negatives. During 2006-07, 85 plant specimens have been collected and identified, 330 specimens labeled, 3404 specimens poisoned, 210 specimens mounted and stitched, 500 specimens indexed, 342 specimen accessioned, and 380 specimens have been incorporated into the herbarium. Over a 100 visitors comprising students, teachers, researchers, scientists, entrepreneurs and others have visited the herbarium so far.

4.3.6 Consultancy Service:

Based on the infrastructure facilities and expertise available with RHMD, a consultancy service against payments of moderate fee has been offered since

January 1994, with the objectives of helping students, research scientists and pharmaceutical industries. This involves identification of crude drug samples in order to check their genuineness by studying samples and related literature.

4.3.7 Training Courses:

Short term training courses of 5-10 days are offered on Herbarium Techniques. The courses cover the latest scientific method of plant collecting, identification, nomenclature, plant proceeding, herbarium management, and the role of herbarium in education, research, environmental protection and bio-diversity conservation. Such courses have been conducted at national and international level.

4.3.8 Information Products and Services

NISCAIR has evolved several information products and services to suit the S&T information requirements of researchers and scientists in the country. These innovative products and services aim at providing packaged S&T information catering to the specific needs of individuals, institutions and corporate bodies.

4.3.9 Contents, Abstracts and Photocopy Service

This service is of great importance to scientists who do not have access to foreign periodicals. The main objective of CAPS is to fill the gap created by the sharp decline in the availability of foreign periodicals to Indian S&T community. This service is of great help to scientists who do not have access

to foreign periodicals. On a yearly subscription, one can get contents of journals (15 for individual subscribers and 30 for institutional subscribers) (12 monthly dispatches) of one's choice from about 4500 Indian and foreign periodicals pertaining to different disciplines on paper, diskette or through e-mail. On browsing the contents, one can place order for abstracts and/or photocopies of full articles. During the year 2006, 55 new subscriptions were registered. Content pages of 14612 issues from 1300 journals were supplied to 51 subscribers in print form and to eight subscribers through e-mail.

4.3.10 Indian Patents Database

INPAT is a bibliographic database, which provides information on 52,624 patents granted in India during 1975-2002. The information on a patent in the database comprises: patent title, applicant(s) name(s), inventor(s) name(s), patent number, application number, application date, publication date, international classification code, and country. The database can be searched through various parameters, or any combination of the above mentioned parameters.

4.3.11 Bibliometric Service:

The Bibliometric Services Division is engaged in carrying out bibliometric analysis of the research papers of individual scientists, institutions and nominees of various awards. The division completed citation analysis of 6,000 papers of 260 scientists. In addition, it has also undertaken a number of Journal Citation Report (JCR) searches for obtaining the impact factor (IF) of

journals. A project on impact analysis of research papers of 264 Bhatnagar awardees has been completed and the report was submitted to CSIR. In addition Index of 264 awardees has been calculated to analyse the impact of the Bhatnagar awardees works. The division has also brought out CSIR Research Output (a bibliometric analysis) for 2005.

4.3.12 Information Retrieval Services

Before starting a research work, scientists want to know the research already done in their area of interest to avoid duplication of research. NISCAIR helps by providing a list of research papers in the scientists' field of interest during a specified period. The list is prepared by searching international online and CD-ROM databases, indigenous databases, e.g. Medicinal & Aromatic Plants Abstracts (MAPA), Internet and full text journals. NISCAIR has online access to a large number of international databases available with DIALOG and STN International, etc. MAPA, an in-house database, which is extensively used by researchers, technologists, herbal drug and essential oil companies and traders, Ayurvedic institutions/ practitioners, farmers and others. The databases are searched and comprehensive bibliographies are provided on any topic requested by the client from any discipline of science and technology, including patents, standards, technical reports, conference proceedings, business and market information of products. Derwent world patent database is the major database in the field of patents. Scientists or institutions frequently use it for checking the novelty of patents before filing.

The academic, scientific, business and industry communities extensively use the database facility at NISCAIR.

4.3.12.1 Translation Service

NISCAIR provides translation services in major foreign languages such as Japanese, Germans, French, Spanish, Chinese and Russian in English language.

4.3.12.2 Document procurement and Supply:

To meet the requirements of researchers and scientists in the country, document copy supply service has been offered since the inception of the erstwhile INSDOC in 1952. NISCAIR provides this service from its own collection of about five thousand periodicals. In addition, the institute taps the resources of a number of S&T libraries in the country by knowing the availability of a given document from its database of National Union Catalogue of Scientific Serials in India (NUCSSI). The NUCSSI database has information on 44,838 titles pertaining to 480 libraries (January 1993-July 2001). Some of the most important S&T libraries in and around Delhi region which provide considerable percentage of total document copy supply are the Indian Agricultural Research Institute (IARI) Library, National Medical Library (NML) and the Delhi University Library (DUL). Besides, resources from other libraries and information centers, such as IITs and IISc, are also tapped. If any document is not available within the country, NISCAIR has alliances with libraries abroad, and it procures the desired document from

foreign sources. During the year 2006, for supplying document, 2750 orders were registered and 1590 executed.

4.3.13 BPR&D Project on Processing and Computerization of Library Documents

Bureau of Police Research & Development (BPR&D) project has been completed by NISCAIR in the stipulated time schedule. The project in its 3rd phase involved the following activities:

- Computerization of catalogue data of about 5000 library documents.
- Correction of data of already processed documents.
- Physical processing of new documents, which involved generation and pasting of barcode labels and shelving.
- Training of the staff members in handling the information activities in the library under the new environment.

4.3.14 SPA Project: Creation of Machine-Readable Catalogue for the Library

The automation and management of the library of School of Planning and Architecture (SPA) project taken up by NISCAIR has been completed and the catalogue database created using CDS/ISIS handed over to SPA. The project involved the following tasks:

- Customization and installation of catalogue management and data retrieval software.

- ❖ Retrospective conversion of 60,000 monographs (approx.) into a machine- readable database.
- ❖ Training of staff members in handling information activities in the library under the new environment.

4.3.15 Major Sponsored projects of NISCAIR

- ❖ Project on updating of Database of International R&D projects in S&T institutions in India.
- ❖ BPR&D project on processing and Computerization of Library Document.
- ❖ INSDOCT-KIT Project with Royal Tropical Institute the Netherlands.
- ❖ Updating of Directory of S&T Awards in India
- ❖ IT facilities and Programme.

Besides the above mentioned activities, NISCAIR also plans to further diversify its activities. The main thrust will be:

- ❖ IT infrastructure Development
- ❖ IT Human Resource Development
- ❖ NISCAIR websites and
- ❖ IT literacy programme

References

1. NML Accessed on 04-12-2007
2. http://www.nml.nic.in/NMLNonFlash/history.html
3. http://www.nml.nic.in/NMLNonFlash/history.html
4. http://www.nml.nic.in/NMLNonFlash/mission.html
5. http://www.nml.nic.in/NMLNonFlash/generalinfo.html
6. http://www.nml.nic.in/NMLNonFlash/location.html
7. http://www.nml.nic.in/NMLNonFlash/criteria.html
8. http://www.nml.nic.in/NMLNonFlash/issue.html
9. http://www.nml.nic.in/NMLNonFlash/lossofbooks.html
10. http://www.nml.nic.in/NMLNonFlash/pbelongings.html
11. http://www.nml.nic.in/NMLNonFlash/management.html
12. http://www.nml.nic.in/NMLNonFlash/reglibrary.html
13. http://www.nml.nic.in/NMLNonFlash/reprography.html
14. http://www.nml.nic.in/NMLNonFlash/lending.html
15. http://www.nml.nic.in/NMLNonFlash/references.html
16. http://www.nml.nic.in/NMLNonFlash/inforetrieval.html
17. http://www.nml.nic.in/NMLNonFlash/activities.html
18. http://www.nml.nic.in/NMLNonFlash/sitemap.html
19. http://mohfw.nic.in/kk/95/ib/95ib1401.htm
20. NISCAIR Accessed on 18-02-08
21. http://www.niscair.res.in/ActivitiesandServices/act.asp?a=topframe.htm&b=leftcon.asp&c=MajorProjects/majproj.htm&d=test1
22. http://www.niscair.res.in/ActivitiesandServices/act.asp?a=topframe.htm&b=leftcon.asp&c=MajorProjects/majproj.htm&d=test1
23. NISCAIR Accessed on 20-02-2008

24. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=OurCharter/ourcharter.htm&d=test

25. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ResearchJournals/rejour/rejour1.htm&d=test1

26. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

27. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

28. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

29. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

30. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

31. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

32. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=../activitiesandservices/products/woi1.htm&d=test4

33. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ScienceCommHindi/scicomhin.htm#Bharat&d=test5

34. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ScholarlyBooks/scholarlybooks.htm&d=test6

35. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=mandate.htm&d=test1

36. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=achievement.htm&d=test9

37. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=intcol.htm&d=test4

38. IARI Accessed on 20-02-08

39. www.iari.res.in

40. http://www.iari.res.in/facilities.php

41. Annual Reports

42. *Indian Agricutural Research Institute, Annual Report 2005-06*

43. *Indian Agricutural Research Institute, Annual Report 2006-07*

Chapter-5

Analysis & Interpretation of Data

CHAPTER-5

ANALYSIS AND INTERPRETATION OF DATA

This chapter contains analyses of responses received from Librarians/ Heads of Libraries, and users of the libraries under study, these libraries act as National libraries in their respective subject fields, i.e. National Medical Library (NML), National Science Library (NSL) and Indian Agricultural Research Institute Library (IARI), all situated in New Delhi. The analyses of the responses received through questionnaire have been presented into two parts which are as follows.

Part 1: Analysis of the responses from Librarians/Heads of libraries under study.

Part 2: Analysis of the responses from users of the libraries.

Analysis for the entire questionnaire has been carried out with the help of tables, statistical analysis, graphs and textual presentation.

5.1 *PART* 1: Responses received from the Librarians/Heads of libraries.

5.1.1 *Growth of Library Budget*

Keeping in view the importance of finance, Librarians/Heads of Libraries were asked to reveal their budget position to assess financial strength of libraries.

The table-1 shows that IARI's budget during 2006-07 for acquisition of books, periodicals and electronic resources was Rs. 23 lakhs, Rs. 93 Lakhs and Rs. 54 lakhs respectively. Hence, the total budget for acquisition of books, periodicals and electronic resources during the year 2006-07 was Rs 170 lakhs.

Similarly, during the year 2006-07, NML spent Rs 25 Lakhs for books, while no separate budget was allocated for periodicals and electronic resources. But the total budget of NML was Rs 6.10 crore during the year 2000-01 and Rs 7.55 crore during 2003-04, which shows an increase in the allocation of budget.

As far as NSL is concerned, the budget allocated for books, periodicals and electronic resources was Rs. 5.43 lakhs, Rs 67.5 Lakhs and Rs 33 Lakhs respectively.

It can be seen from the table-1 that the total budget of NSL during the year 2000-01 was Rs 86 Lakhs which increases to Rs 105.93 in 2006-07. It can be said that t there is no significant growth of budget in NSL.

Finance is the key factor for any organization and is very important for non-profitable organizations like libraries and information centers. Therefore, adequate funds are necessary for growth and development of libraries. Libraries spend significant amount for books, periodicals, electronic resources and implementation of information technology.

Table- 1 Growth of Library Budget

Budget	Books							Periodicals							Electronic sources							Total						
Year	00-01	01-02	02-03	03-04	04-05	05-06	06-07	00-01	01-02	02-03	03-04	04-05	05-06	06-07	00-01	01-02	02-03	03-04	04-05	05-06	06-07	00-01	01-02	02-03	03-04	04-05	05-06	06-07
IARI	9 lakh	11 lakh	15 lakh	17 lakh	19 lakh	21 lakh	23 lakh	55 lakh	60 lakh	70 lakh	80 lakh	85 lakh	88 lakh	93 lakh	30 lakh	32 lakh	35 lakh	40 lakh	45 lakh	50 lakh	54 lakh	1.40 crore	1.45 crore	1.50 crore	1.55 crore	149	159	170
NML	10 lakh	11 lakh	11 lakh	15 lakh	18 lakh	23 lakh	25 lakh	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	6.10 crore	6.65 crore	7.22 crore	7.50 core			
NSL	3.5 lakh	3.0 lakh	3.0 lakh	4.0 lakh	4.37 lakh	4.5 lakh	5.43 lakh	60.5 lakh	60.7 lakh	61.0 lakh	61.5 lakh	61.64	62	67.5	22.0 lakh	21.0 lakh	28.0 lakh	30.0 lakh	32 lakh	32.5 lakh	33 lakh	86 lakh	84.7 lakh	92 lakh	95.5 lakh	98.01	99	105.93

NS=NoSeparateData

5.1.2 Growth of Library collection

As a document collection is the foundation of any library, a library cannot respond to the growing needs of its users unless it has the materials required by them. For supporting education and research programme of any institution, its library must develop a well balanced collection. The details of the growth of the collection of these libraries are given in the table-2.

The Librarians/Heads of Libraries were asked to furnish the details of the growth of collection of their respective libraries. The above table shows the growth of library collection of three libraries. It can be seen that IARI's collection of books in the year 2003-04 was 75000, in 2004-05 it was 80,000 in 05-06, it was 95000 and in the year 2006-07, it went up to 1 Lakh. As far as current periodicals are concerned, IARI had only 775 current periodicals in 2003-04 which increased to 806 in the year 2006-07. IARI also has back issue of journals. It was 76000 during the year 2003-04 and extended to 85000 in the year 2005-06. It then decreased to 8000 in 2006-07 because of the weeding out policy of the library. As far as the growth and development of electronic resources are concerned, IARI acquires 10 electronic sources of information during the year 2003-04 which reached to 20 in the year 2006-07.

It is also evident from the above table that NML has acquired 127000 books during the year 2003-04, which expanded to 150000 in 2006-07. During the year 2006-07 NSL had 2000 current periodicals, 230000 back issue of journals and 50 electronic sources of information. The data also show that during the year 2003-04, NSL had 62000 books which went up to 70000 in the year 2006-

07. Regarding the current periodicals the growth took place from 1000 during the year 2003-04, to 1500 in the year 2006-07.

It is also revealed from the table-2 that NSL had 105000 back issue of journals in the year 2003-04 which increased to 1,40,000 in the year 2006-07. As far as the growth and development of electronic resources are concerned, NSL acquired 900 electronic sources of information during the year 2003-04 which went up to 1500 in the year 2006-07.

Table-2 Growth of Library collection

Collection	Books				Current periodicals				Back issues of journals				Electronic resources			
Year	03-04	04-05	05-06	06-07	03-04	04-05	05-06	06-07	03-04	04-05	05-06	06-07	03-04	04-05	05-06	06-07
IARI	75,000	80,000	95,000	1,00000	775	800	806	806	76,000	80,000	85,000	80,000	10	12	14	-
NML	1,27,000	1,30,000	1,35,000	1,50,000	1200	1500	1800	2000	1,75,000	1,80,000	2,00000	2,30,000	35	40	45	50
NSL	62,000	63,000	67,000	70,000	1,000	1200	1300	1500	1,05000	1,10,000	1,20,000	1,40,000	900	1000	1200	1500

5.1.3 Organization of Information Sources

The document collection in the form of books and bound volumes of periodicals, in particular, are found classified either under one system of classification or the other.

Regarding the cataloging system for preparing of catalogues, different systems are prevalent, such as the Anglo American Cataloging Rules (AACR) and Classified Catalogue Code (CCC) which has been developed by S.R. Ranganathan (Table-3).

Table-3 Organization of Information Sources

Libraries	Classification			Cataloging		
	Books	**Journal**	**Electronic resource**	**Book**	**Periodical**	**Electronic resource**
IARI	UDC	UDC	_	AACR-2	AACR-2	_
NML	DDC	Alphabetical	_	CCC & AACR-2	_	_
NSL	UDC	Alphabetical	Alphabetical	AACR-2	AACR-2	Alphabetical

The table-3 shows that for classification of books IARI and NSL use UDC, whereas NML uses DDC. For periodicals/journals, IARI uses UDC and NML and NSL uses alphabetical order. For electronic sources IARI and NML did not give any response, while NSL uses alphabetical arrangement.

For the cataloguing of books and periodicals, IARI and NSL libraries uses AACR-2, where as NML uses CCC. For cataloguing of electronic sources IARI and NML did not give any response whereas NSL has arranged all the electronic sources alphabetically.

5.1.4 Library staff

The library personnel play a key role in making the library resources available to its users in a more convenient way.

Table-4 Library Staff

Types of staff	IARI	NML	NSL
Library professionals	27	12	5
Non professionals	15	50	6
Total	42	62	11

The table-4 shows that out of the three libraries under research NML has the largest number of staff which is 62, out of which 12 are library professionals and 50 are non-professionals followed by IARI which has a total of 42 staff,

out of which 27 are professionals and 15 are non-professionals, whereas NSL has only 11 library staff, out of which 5 are professional and 6 are non-professional. It was observed that in most of the libraries there is a shortage of library professionals.

5.1.5 Opinion about facilities available in the library

Infrastructure also plays an important role in the development and functioning of any organization. The table-5 shows the availability of facilities in the libraries and the problems faced by respective librarians in their organizations. In the above table, Librarians/Heads of Libraries were asked to indicate their view regarding facilities available in the library.

The respondents expressed their dissatisfaction regarding availability of facilities in the libraries. All of them expressed that the systems available in the library and the seating arrangement is not satisfactory. As far as library software is concerned, in IARI and NSL it was satisfactory but in NML it was not satisfactory.

Regarding the availability of multimedia resources, NSL is satisfied and IARI is not satisfied whereas in NML, there is lack of availability of multimedia resources.

Table-5 Opinion about facilities available in the library

Facilities	IARI	NML	NSL
Library Software	Satisfied	Not satisfied	Satisfied
Availability of Multimedia resources	Not satisfied	Not Available	Satisfied
Sitting Arrangement	Not satisfied	Not satisfied	Not satisfied
Number of Systems	Not sufficient	Not Sufficient	Not Sufficient

5.1.6 Library services

The Librarians/Heads of libraries were asked to indicate services available in their respective libraries. It can be noted that reference services, CAS, reprographic and Indexing/Abstracting services were available in all the three libraries. It was, however, discouraging to note that not a single library under study provided SDI services. As far as ILL is concerned, only IARI did not provide this service while others did. The translation service is provided only by NSL. The other services, such as circulation and DDS are provided by all the libraries. (Table-6)

Table-6 Library Services

Library Services	IARI	NML	NSL
Reference service	Yes	Yes	Yes
CAS	Yes	Yes	Yes
SDI	No	No	Yes
Reprography	Yes	Yes	Yes
Translation	No	No	Yes
Indexing/Abstracting	Yes	Yes	Yes
ILL	No	Yes	No
Others	Yes	Yes	Yes

5.1.7 Retrospective Conversion of Catalogue

To assess the extent of conversion of catalogues into electronic form, respondents were asked to indicate how much of their respective libraries' catalogue have been converted into machine readable form. It is evident from the table-7 that IARI and NSL have converted almost their entire catalogue into machine readable form, while NML has converted 25% to 50% of its

catalogue. In NML the conversion of catalogue was found to be in the progressive stage.

Table-7 Retrospective Conversion of Catalogue

Libraries	10-25%	25-50%	50-75%	75-100%
IARI				√
NML		√		
NSL				√

5.1.8 Charging System

In above table-8, the question regarding the type of charging system has been asked from the Librarians/Heads of libraries. It can be noted that all the three libraries use Bar Code technology for Issue/Return of the books. In the NML and NSL, no proper issue system is there for the journals while in IARI, register system is being followed.

In IARI and NML, electronic information is being provided through CD-Networks, while NSL has its campus wide network to deliver its EIS (Electronic Information Sources)

Table-8 Charging System

Libraries	Books	Journals	EIS
IARI	Barcode system	Register	CD-Networks
NML	Barcode system	No method	CD-Networks
NSL	Barcode system	No method	NSL campus Network

5.1.9 Information and Communication Technology (ICT) based services

In recent years there have been encouraging signs of development in the area of computerization. There is not only a need to improve the old ones, but also to initiate new services.

5.1.10 Availability of ICT based services

Table-9 reveals that computerized services are more or less available in all the three libraries. IARI, NML and NSL have OPAC, E-Journals and CD-ROM databases. Questions regarding E-CAS and E-SDI services were not answered positively by any of the three libraries.

Table-9 Availability of ICT based services

Libraries	OPAC	E-journal	E-CAS/SD1	CD-ROM/Online Database
IARI	Yes	Yes	No	Yes
NML	Yes	Yes	No	Yes
NSL	Yes	Yes	No	Yes

5.1.11 Facilities available in the library

Respondents indicated that IARI and NML use LibSys, whereas NSL is using E-Granthalaya library automation software. As far as CD-Networks are concerned, all the three libraries are equipped with this facility.

The responses also show that IARI has 26 computer systems while NML has 14, and NSL has 18 systems. It can also be noted that IARI has a total number of 4 printers; NML has 7, whereas NSL has highest number of printers which is 8. (Table-10)

Table-10 Facilities available in the library

Libraries	Library software	Availability of CD-Network	No. of systems	No. of printers
IARI	LibSys	Yes	26	4
NML	LibSys	Yes	14	7
NSL	E-Granthalaya	Yes	18	8

5.1.12 Networks to which libraries have access

The basic objective of a library is to provide better services for its users one of the methods is by adopting IT in various means of communication. Therefore, participation of special libraries into library networks has been included in the study to assess resources by showing facilities available in the libraries.

The table-11 shows that all the three libraries surveyed participate in DELNET programme where as NML and NSL also participate in NICNET. However, only IARI participates in ERNET programme.

Table-11 Networks to which libraries have access

Networks	IARI	NML	NSL
DELNET	√	√	√
INFLIBNET	-	-	-
NICNET	-	√	√
ERNET	√	-	-

5.1.13 Constraints in the implementation of electronic information services

Implementation and maintenance of information technology is a continuous process which has constraints. Therefore, it is also essential to know the nature of constraints, and the necessary remedial measures to overcome these, so that institutions can progress/function smoothly in the right direction.

It is clear from table-12 that all libraries face financial and infrastructural problems, while NML and NSL also face the problem of managerial skills, IARI and NSL face technical problems. However, all the libraries also have various other problems. It is quite evident that finance is the major problem in implementation. It was found that all the libraries have some problem or the other in implementing electronic information system.

Table-12 Constraints in the implementation of electronic information services

Constraints	IARI	NML	NSL
Financial	√	√	√
Managerial	_	√	√
Personal	√	_	_
Technical	√	_	√
Infrastructural	√	√	√
Others	√	√	√

5.1.14 Impact of IT on Library

Keeping in view the importance of Information Technology in library and Information services, Librarians/Heads of libraries were asked to give their views regarding impact of IT on collections, users, workload of staff and information sources and services.

Table -13 shows that library and information services have improved with the implementation of Information Technology. In IARI and NLS, Library and information sources and services have been increased with the implementation of IT. It was also found that in IARI and NML the number of

users increased, but in NSL it did not increase. The workload of the staff in IARI library decreased with the implementation of the IT whereas, in NML and NSL the workload did not decrease.

Table-13 Impact of IT on Library

Impact of IT	IARI	NML	NSL
Library & Information Services improved	Yes	Yes	Yes
Library & Information sources increased	Yes	No	Yes
Number of users increased	Yes	Yes	No
Work load decreased	Yes	No	No

5.2 Part 2: Analysis of responses received from the users of the three select libraries

The following table shows the distribution of questionnaire to the users of the select libraries. (This has already been discussed in Chapter 1)

Size and Sample of the Population

Libraries under study	Questionnaire administered	Questionnaire received	Questionnaire selected
IARI No.=800	120 (15.00)	92 (76.67)	80 (66.67)
NML No. =550	100 (18.18)	84 (84.00)	75 (75.00)
NSL No. =50	45 (90.00)	42 (84.00)	40 (80.00)

(Percentage within parentheses)

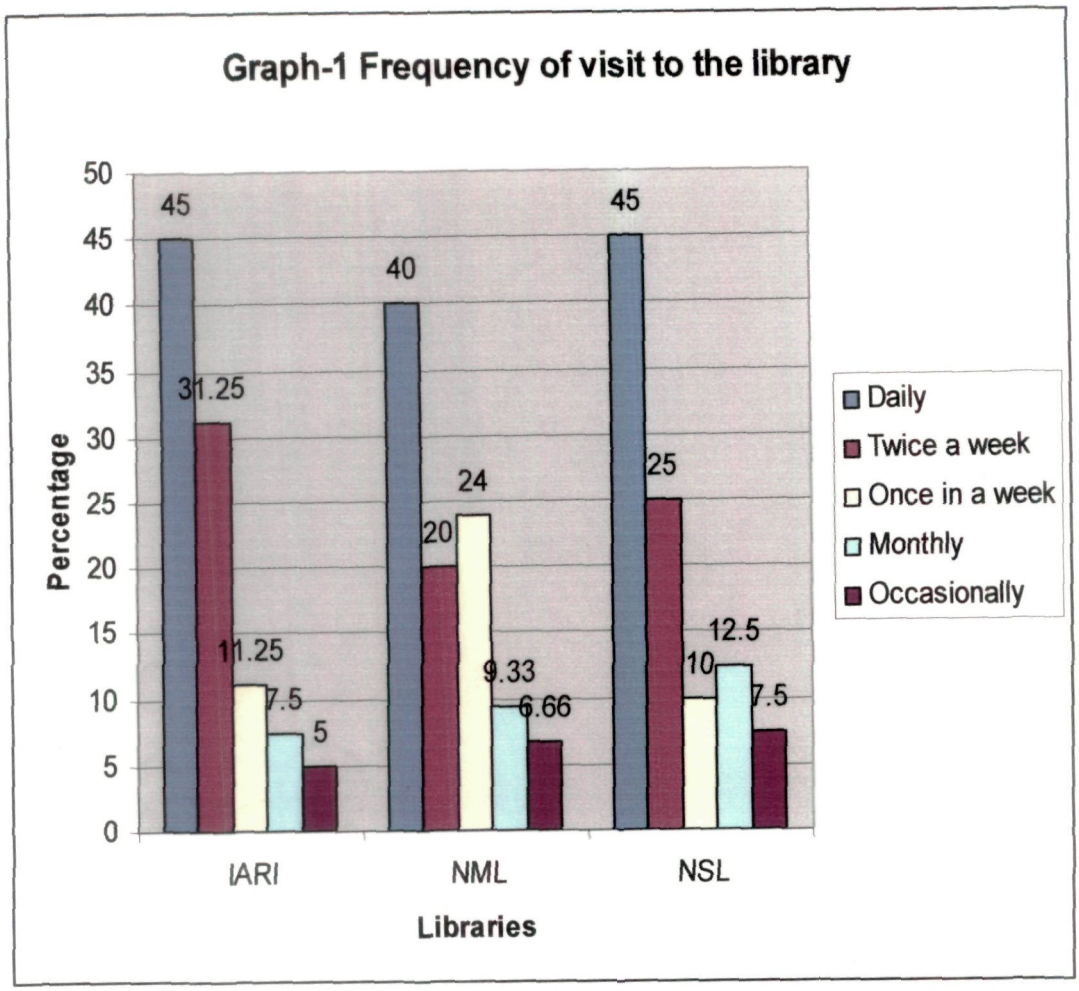
5.2.1 Frequency of visit to the library

Table-1 shows that 45.00% users in IARI and NSL visit the library daily, whereas in NML the percentage of the users who visit the library daily is 40. Users who visit the library twice a week is 31.25%, 20.00% and 25.00% in IARI, NML and NSL respectively. Users who visit the library once in a week are 11.25% in IARI, 24.00% in NML and 10.00% in NSL. 7.50%, 9.33% and 12.50% users of IARI, NML and NSL respectively visit the library once in a month, whereas 5.00% in IARI, 6.66% in NML and 7.50% in NSL visit the library occasionally. After analyzing the above table it was found that a majority of users (43.07%) visit the library daily.

Table 1: Frequency of visit to the library

S. No.	Frequency	Libraries			
		IARI No.=80	NML No.=75	NSL No.= 40	Total No.= 195
1.	Daily	36(45.00)	30(40.00)	18 (45.00)	84 (43.07)
2.	Twice a week	25(31.25)	15(20.00)	10 (25.00)	50 (25.64)
3.	Once in a week	9(11.25)	18(24.00)	4(10.00)	31 (15.89)
4.	Monthly	6(7.50)	7(9.33)	5 (12.50)	18 (9.23)
5.	Occasionally	4(5.00)	5(6.66)	3 (7.50)	12 (6.15)

(Percentage within parentheses)



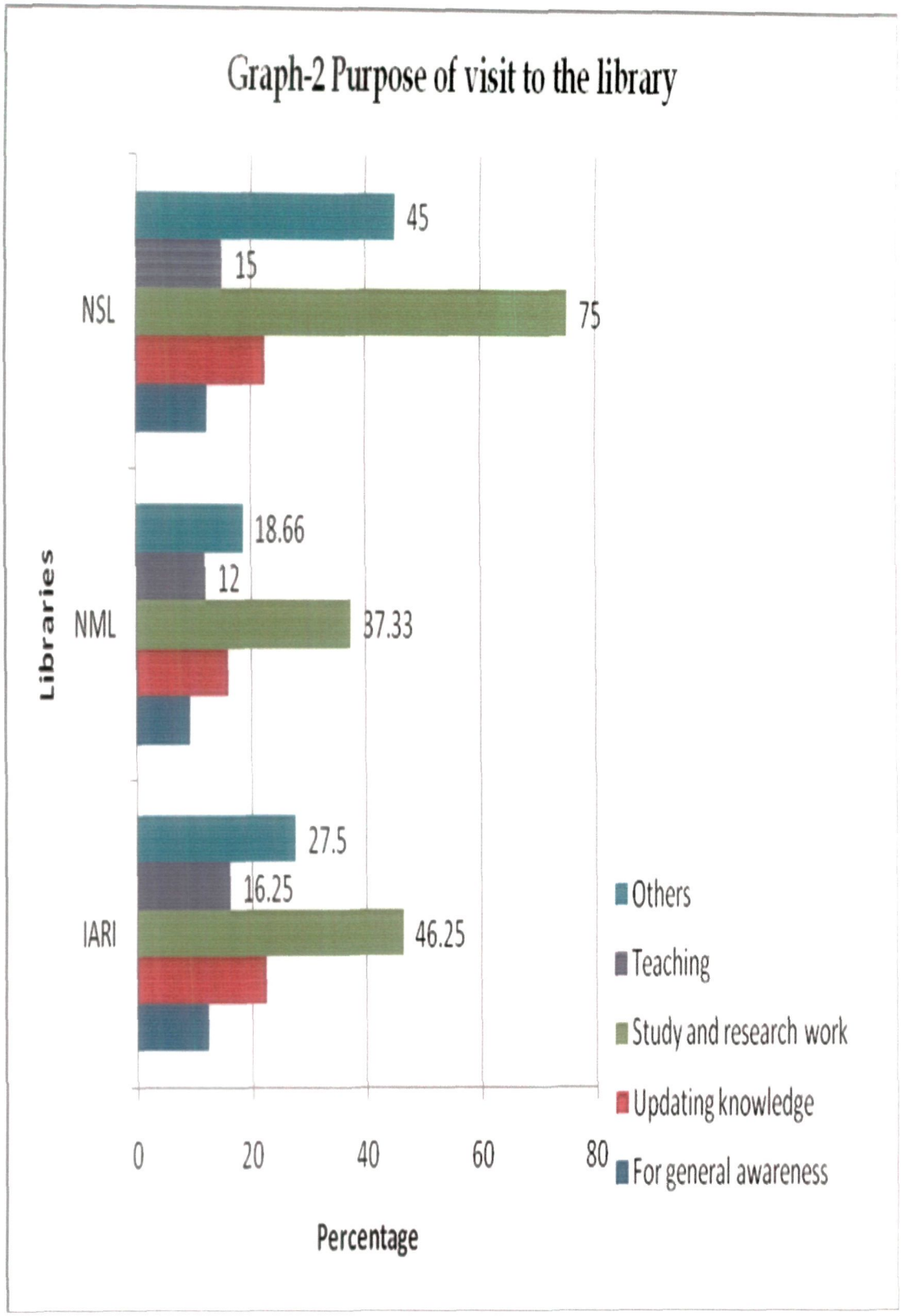
5.2.2 *Purpose of visit to the library*

The frequency of the library visit does not reflect the use to which a collection is put unless the purpose of library visit is clarified. The observation and survey conducted with regard to the purpose of library visit of the users revealed that 46.25% users of IARI, 37.33% of NML and 48.71% users of NSL visit the library for study and research work. It has also been revealed that only 16.25% users in IARI, 12.00% in NML and 15.00% in NSL visit the library for consulting the documents for teaching purposes. (Table 2)

Table 2: Purpose of visit to the library

S. No.	Purpose	IARI No.=80	NML No.=75	NSL No.=40	Total No.=195
1.	For general awareness	10 (12.50)	7 (9.33)	5 (12.50)	22 (11.28)
2.	Updating knowledge	18 (22.50)	12 (16.00)	9 (22.50)	39 (20.00
3.	Study and research work	37 (46.25)	28 (37.33)	30 (75.00)	95 (48.71)
4.	Teaching	13 (16.25)	9 (12.00)	6 (15.00)	28 (14.35)
5.	Others	22 (27.50)	14 (18.66)	18 (45.00)	54 (27.69)

(Multiple answers were permitted) *(Percentage within parentheses)*


Graph-2 Purpose of visit to the library
45
15
75
18.66
12
37.33
27.5
16.25
46.25
NSL
NML
IARI
Libraries
0
20
40
60
80
Percentage
Others
Teaching
Study and research work
Updating knowledge
For general awareness

5.2.3 *Opinion about availability of reading seats*

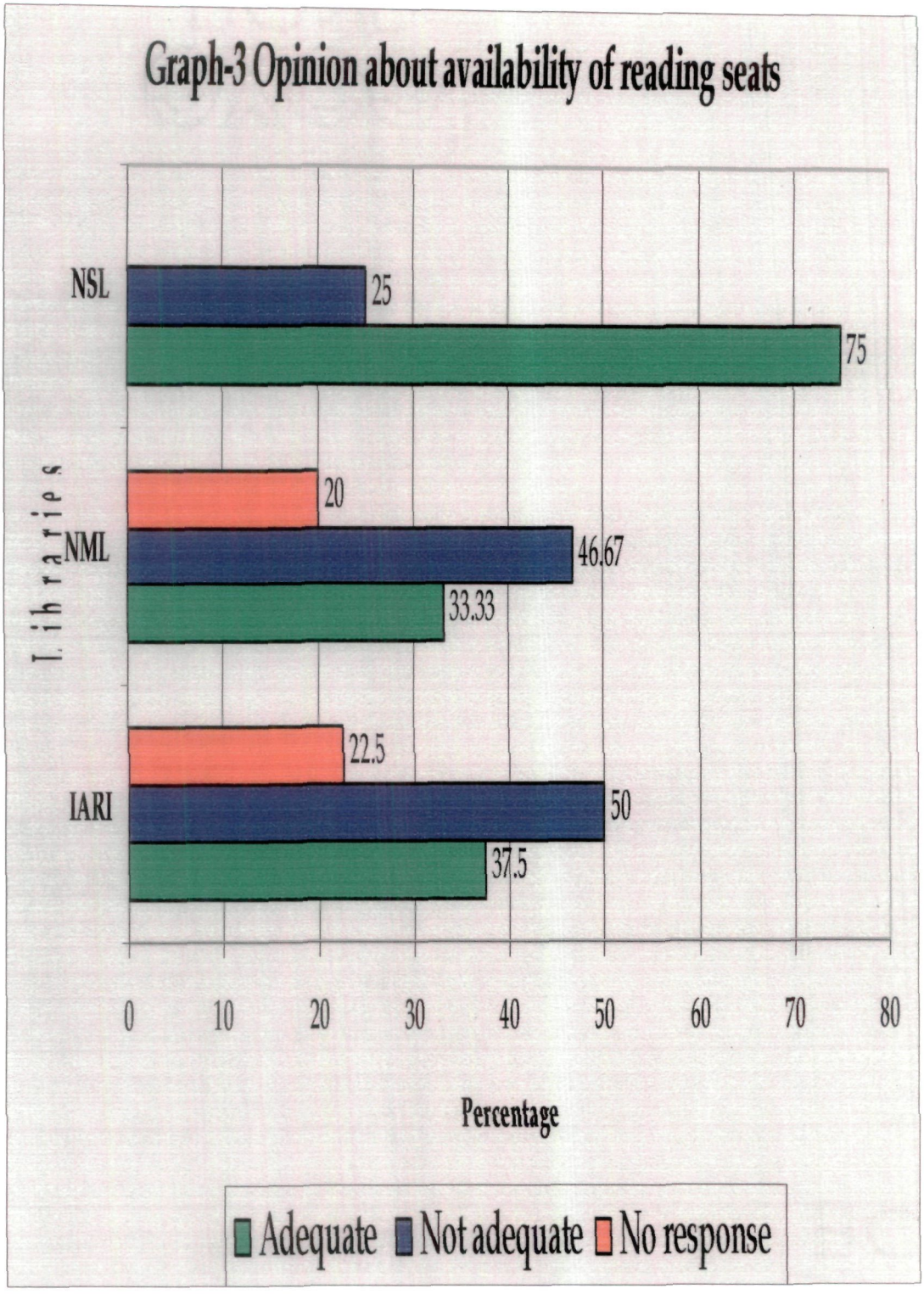
In order to promote the use of a library collection, it is essential that a library should have separate, reference and research room with sufficient number of seats and efficient lightning system, including arrangement for emergency lights in case of power failure. There should be a separate section for electronic, resources because they require sophisticated handling and special storage techniques.

Respondents were questioned regarding the adequacy of reading seats available in the libraries. The data in table-3 reflects that 75.00% user of NSL indicated that the reading seats are adequate, while only 33.33% users in NML say it is adequate. 22.50% users in IARI and 20.00% in NML did not, however, respond to this question.

Table 3: Opinion about availability of reading seats

S. No.	Libraries	Adequate	Not adequate	No response
1.	IARI No.=80	30 (37.50)	40 (50)	10 (22.50)
2.	NML No.=75	25 (33.33)	35 (46.67)	15 (20)
3.	NSL No.=40	30 (75)	10	-

(Percentage within parentheses)


Graph-3 Opinion about availability of reading seats
NSL
NML
IARI
Libraries
25
75
20
46.67
33.33
22.5
50
37.5
0
10
20
30
40
50
60
70
80
Percentage
Adequate
Not adequate
No response

5.2.4 *Use of sources of information*

Data in table-4 show that in IARI (58.75%) and NSL (62.52%), a majority of users use periodicals/journals as compared to books, reference books, theses/dissertations, audio-visual materials and other sources of information. In NML most of the users (53.33%) use books as compared to other sources of information. It was found that the least used sources of information in all the three libraries were audio-visual materials and technical reports/standard/monograph/patents. Good numbers of users in IARI and NML use thesis/dissertation for their research.

It is revealed from the above analysis that periodicals/ journals are the most used sources of information as they serve as a source of current information and bibliographic tool in science and technology.

Table 4: Use of sources of information

S. No.	Information sources	Libraries			
		IARI No.=80	NML No.=75	NSL No.=40	Total No.=195
1.	Books	30 (37.50)	40 (53.33)	22 (55.00)	92 (47.17)
2	Periodicals/Journals	47 (58.75)	32 (42.66)	25 (62.50)	104 (53.33)
3.	Reference Books	10 (12.50)	10 (13.33)	15 (37.50)	35 (17.94)
4.	Theses/Dissertations	20 (25.00)	22 (29.33)	7 (17.50)	49 (25.12)
5.	Audio-Visual Material	8 (10.00)	10 (13.33)	6 (15.00)	24 (12.30)
6.	Technical Reports/Standards/ Monographs/Patents	6 (7.50)	8 (10.66)	4 (10.00)	18 (9.23)

(Multiple answers were permitted) *(Percentage within parentheses)*

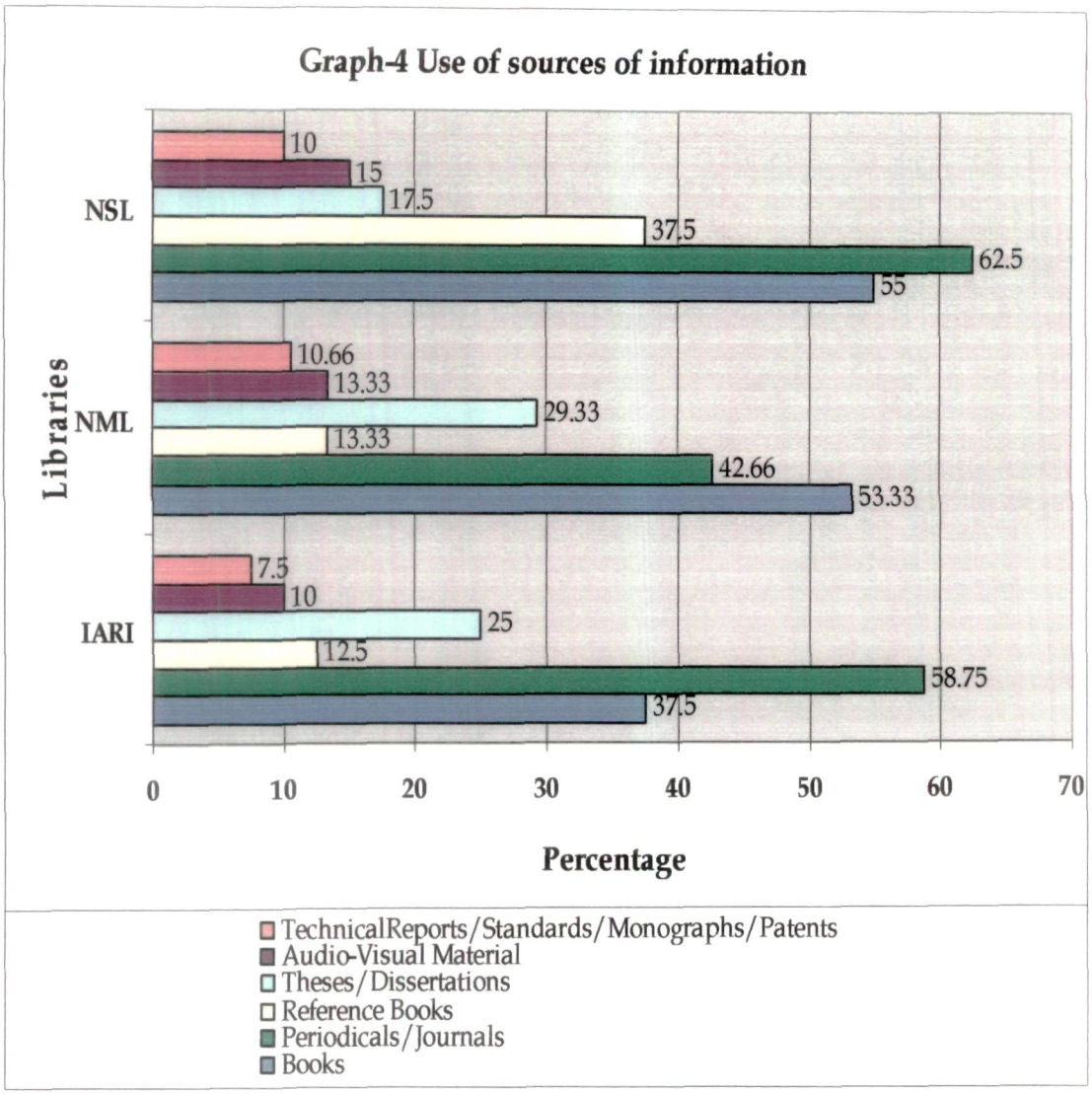

Graph-4 Use of sources of information
Libraries
NSL
NML
IARI
10
15
17.5
37.5
62.5
55
10.66
13.33
29.33
13.33
42.66
53.33
7.5
10
25
12.5
58.75
37.5
0
10
20
30
40
50
60
70
Percentage
TechnicalReports/Standards/Monographs/Patents
Audio-Visual Material
Theses/Dissertations
Reference Books
Periodicals/Journals
Books

Table 5: Use of electronic sources

Libraries	Online database			E-Journals			CD-Rom Database		
	Yes	No	NR	Yes	No	NR	Yes	No	NR
IARI No.=80	53 (66.25)	22 (27.50)	5 (6.25)	48 (60.00)	20 (25.00)	12 (15.00)	44 (55.00)	30 (37.50)	6 (7.50)
NML No.=75	30 (40.00)	39 (52.00)	6 (8.00)	45 (60.00)	25 (33.34)	5 (6.66)	36 (48.00)	35 (46.66)	4 (5.34)
NSL No.=40	18 (45.00)	20 (50.00)	2 (5.00)	15 (37.50)	22 (55.00)	3 (7.50)	20 (50.00)	18 (45.00)	2 (5.00)
Total No.=195	101 (51.79)	81 (41.53)	13 (6.66)	108 (55.38)	67 (34.35)	20 (10.25)	100 (51.28)	83 (42.56)	12 (6.15)

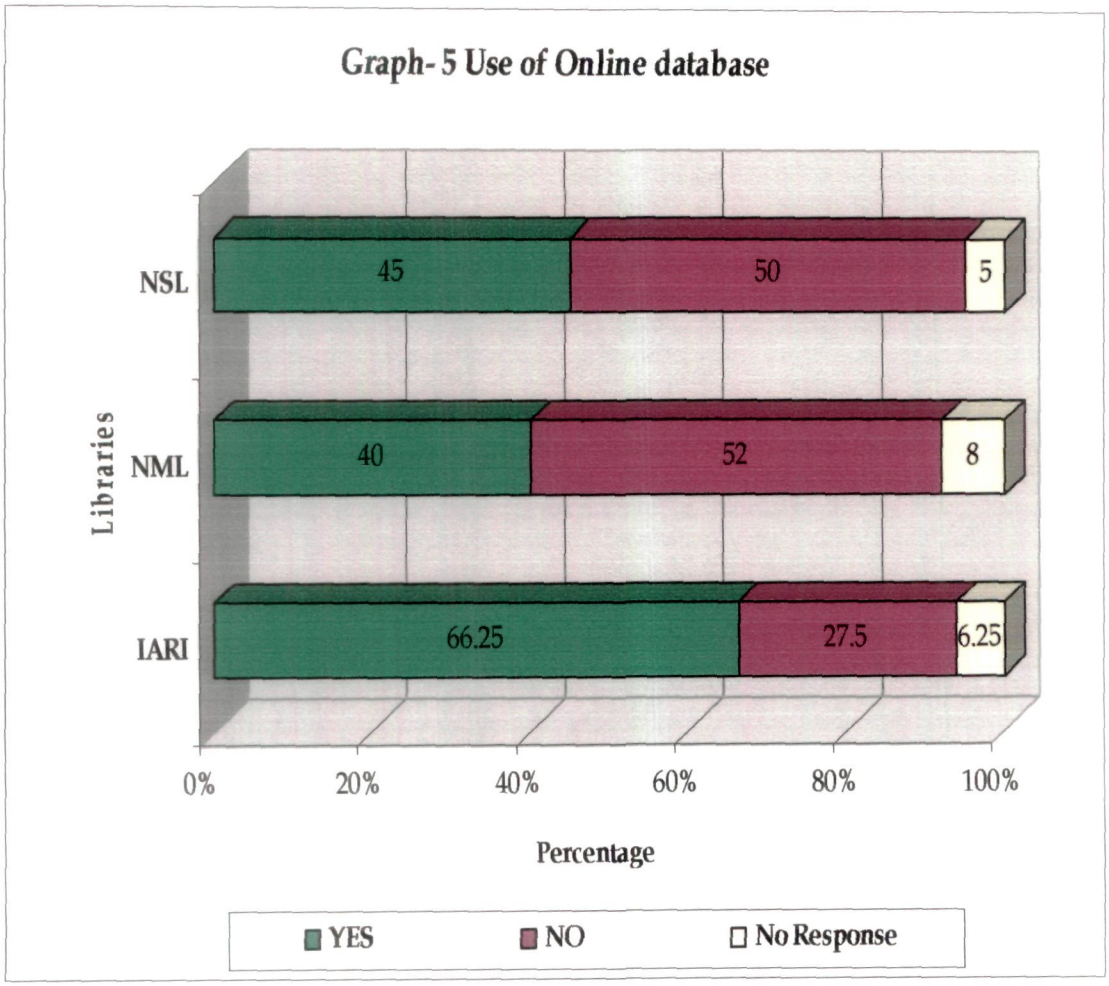
(Percentage within parentheses)

5.2.4 *Use of electronic sources*

Results of Table-5 are those that were obtained when respondents were asked to express their opinion about the use of electronic information sources.

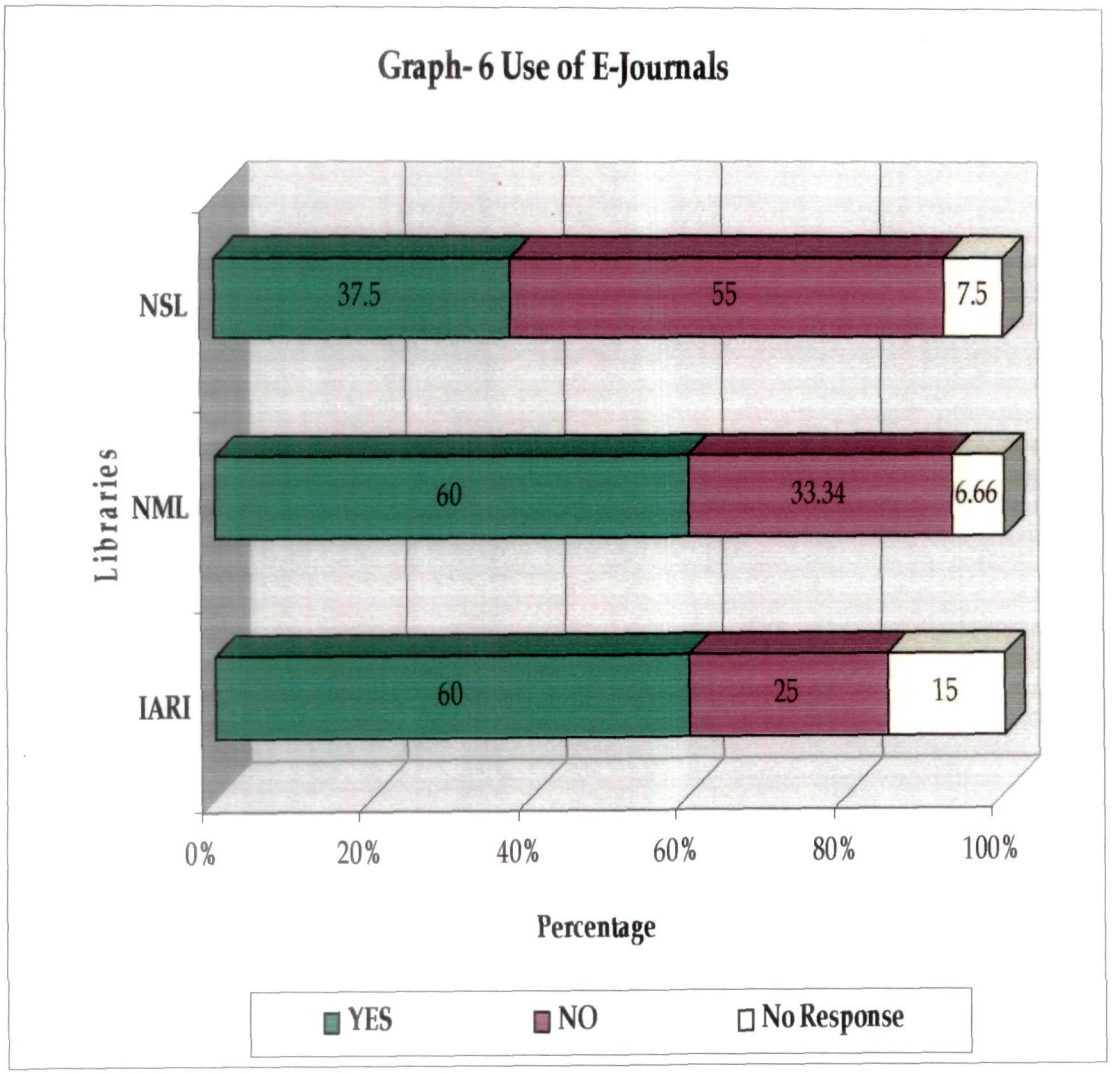
5.2.4.1 *Online Databases*

The analysis shows that 66.25% users use online databases, while 27.50% users do not and 6.25% users did not give any response to this question. The table further reveals that 40.00% users of NML and 45.00% users in NSL use online databases, while 52.00% in NML and 50.00% in NSL replied that they did not use any online databases. A few numbers of library users did not respond to this query.(Graph-5)


Graph- 5 Use of Online database
NSL
NML
IARI
45
50
5
40
52
8
66.25
27.5
6.25
0%
20%
40%
60%
80%
100%
Libraries
Percentage
YES
NO
No Response

5.2.4.2 *E-journals*

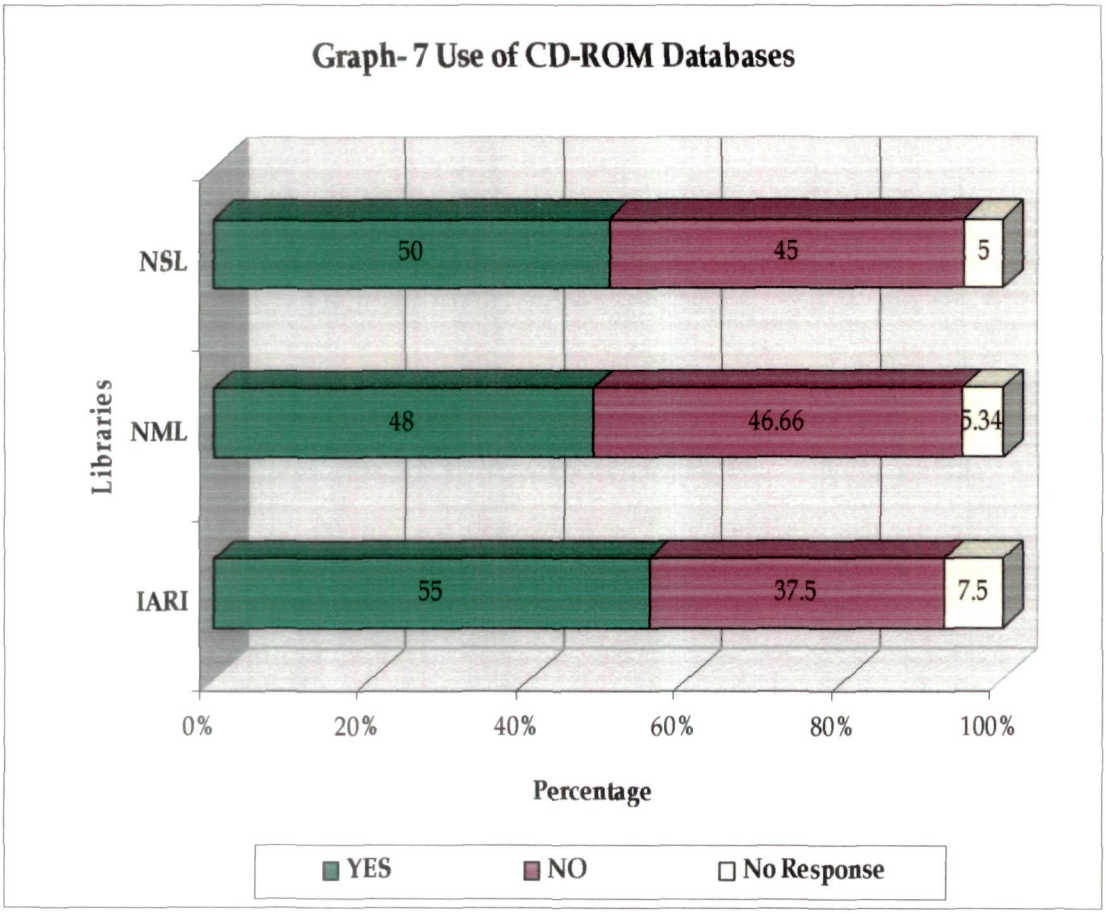
As far as uses of E-journals are concerned, 51.28% of users consult E-journals for their study and research work, whereas 42.56 percent of them do not use the same. It is interesting to note that most of the users (55.00%) in IARI use e-journals as compared to other libraries. (Graph-6)



5.2.4.3 *CD-ROM Databases*

It was asked whether respondent used CD-ROM databases or not. It was found that 55.38 percent respondents gave a positive response and said they use it for their study and research purpose, and 34.35 percent said 'No', while 10.25 did not give any response.

As far as individual libraries are concerned, IARI (60.00) and NML (60.00) users use CD-ROM Databases, while in NSL only 37.50% users use CD-ROM Databases. However, a few number of users in IARI (15.00),NML (6.66) and NSL(7.50) did not reply.(Graph-7)



5.2.5 Frequency of use of E-resources

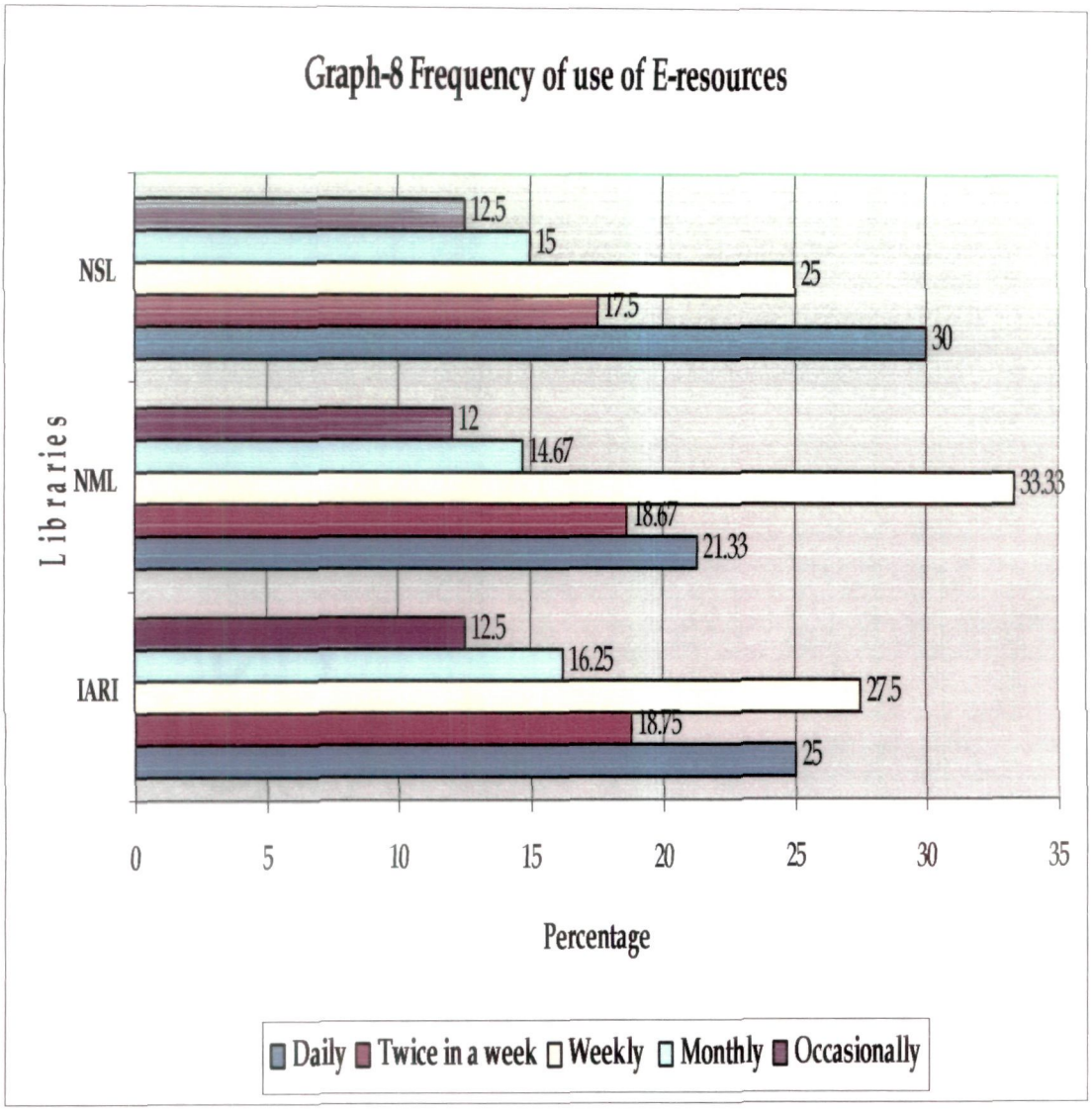
The analysis also shows that 27.50% users of IARI and 33.33% of NML use e-resources weekly. However 30% users of NSL use it daily. It is noted that only 12.50% in IARI, 12.00% in NML and 12.50% in NSL use e-resources occasionally.

The overall analysis shows that the largest number of the users comprising (29.23%) e-resources weekly. And only 12.30% users use these resources occasionally (Table-6).

Table 6: Frequency of use of E-resources

Frequency	IARI No.=80	NML No.=75	NSL No.=40	Total No.=195
Daily	20 (25.00)	16 (21.33)	12 (30.00)	48(24.61)
Twice in a week	15 (18.75)	14 (18.67)	7(17.50)	36(18.46)
Weekly	22 (27.50)	25 (33.33)	10 (25.00)	57(29.23)
Monthly	13 (16.25)	11 (14.67)	6 (15.00)	30(15.38)
Occasionally	10 (12.50)	9 (12.00)	5 (12.50)	24(12.30)

(Percentage within parentheses)


Graph-8 Frequency of use of E-resources
NSL
NML
IARI
Libraries
12.5
15
25
17.5
30
12
14.67
33.33
18.67
21.33
12.5
16.25
27.5
18.75
25
0
5
10
15
20
25
30
35
Percentage
Daily
Twice in a week
Weekly
Monthly
Occasionally

5.2.6 Favourite activities while using ICT

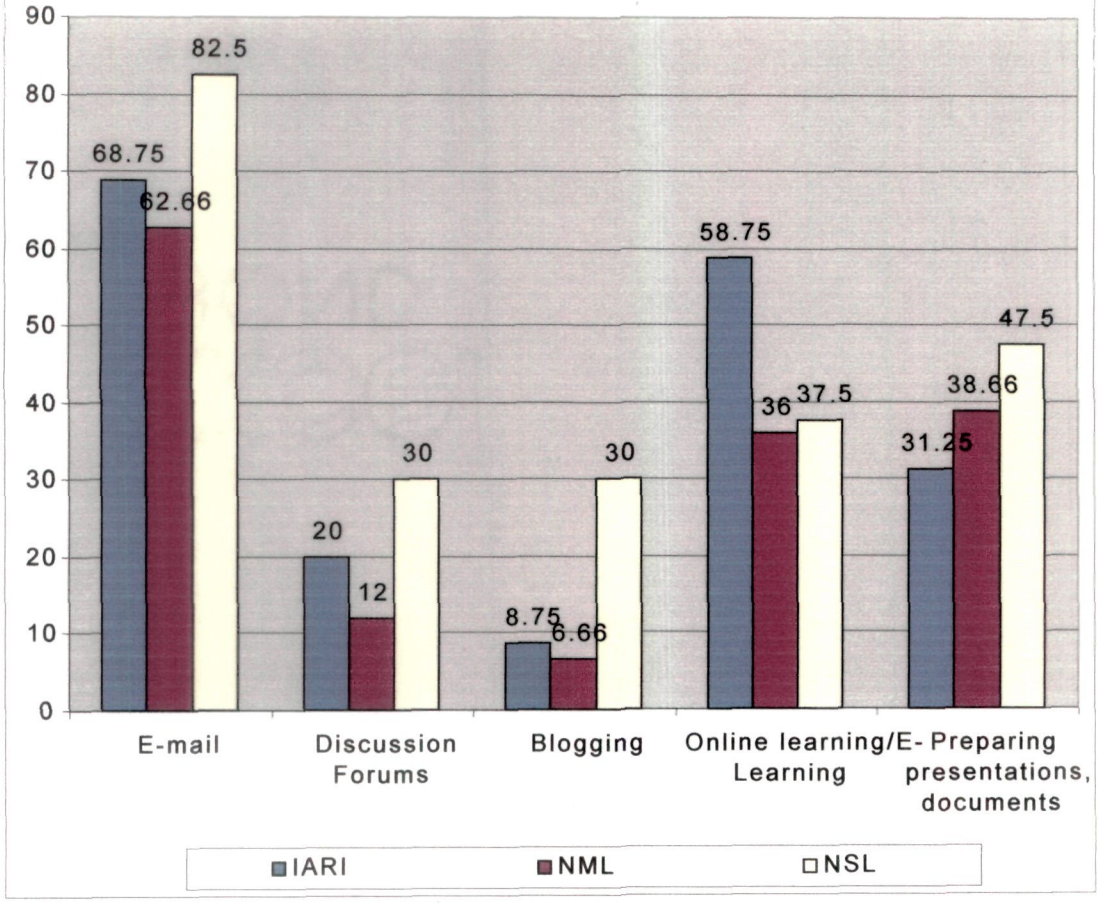
Table-7 demonstrates that in IARI 68.75% users use email, followed by 58.75% who ICT for e-learning, further followed by 31.25% preparing presentations, documents etc. In NML, majority of users (62.66%) use ICT for email, whereas 38.66% prepare presentations, documents, and at least a few numbers use it for blogging. In NSL most of the users (82.50%) use ICT for email, followed by 47.50% for preparing presentations, documents etc. Hence, it clearly shows that majority of users use ICT for emails in the three libraries.

Table-7 Favourite activities on Internet

Sl. No.	Favourite activities	Libraries		
		IARI No.=80	NML No.=75	NSL No.=40
1.	E-mail	55(68.75)	47(62.66)	33(82.50)
2.	Discussion Forums	16(20)	09(12)	12(30.00)
3.	Blogging	07 (8.75)	05(6.66)	12(30.00)
4.	Online learning/E-Learning	47(58.75)	27(36)	15(37.50)
6.	Preparing presentations, documents	25(31.25)	29(38.66)	19(47.50)

(Multiple answers were permitted) *(Percentage within parentheses)*

Graph-9 Favorite activities on Internet



5.2.7 *Problems in Using E-Resources*

Respondents were asked to indicate reason(s) which discourage them to access e-resources. Although, use of e-resources became easier than ever because of the application of IT but there are a number of problems, faced by the users while using e-resources. The most common reason cited for less use of e-resources was lack of printing facility, i.e. 43.58%, the other problems (23.07%) were irrelevant information retrieved, slow speed, dead WebPages, authenticity of websites. It was also found that 23.07% users are not familiar with modern techniques. Lack of printing facility is a major problem in all the three libraries, as in IARI 43.75%, NSL 37.50% and in NML 33.33%; followed by lack of trained staff as in IARI (17.50%), in NSL 15.00% and in NML it is 12.00%. (Table-8)

Table 8: Problems in Using E-Resources

S. No.	Problems	IARI No.=80	NML No.=75	NSL No.=40	Total No.=195
1.	Not familiar with modem technique	22(27.50)	16(21.33)	7(17.50)	45(23.07)
2.	Lack of trained Staff	14(17.50)	9(12.00)	6(15.00)	29(14.87)
3.	Financial	5(6.25)	6(8.00)	4(10.00)	15(7.69)
4.	Inadequate infrastructure	10(12.50)	8(10.66)	5(12.50)	23(11.79)
5.	Lack of printing facility	35(43.75)	25(33.33)	15(37.50)	85(43.58)
6	Others	20(25.00)	14(18.66)	11(27.50)	45(23.07)

(Percentage within parentheses)

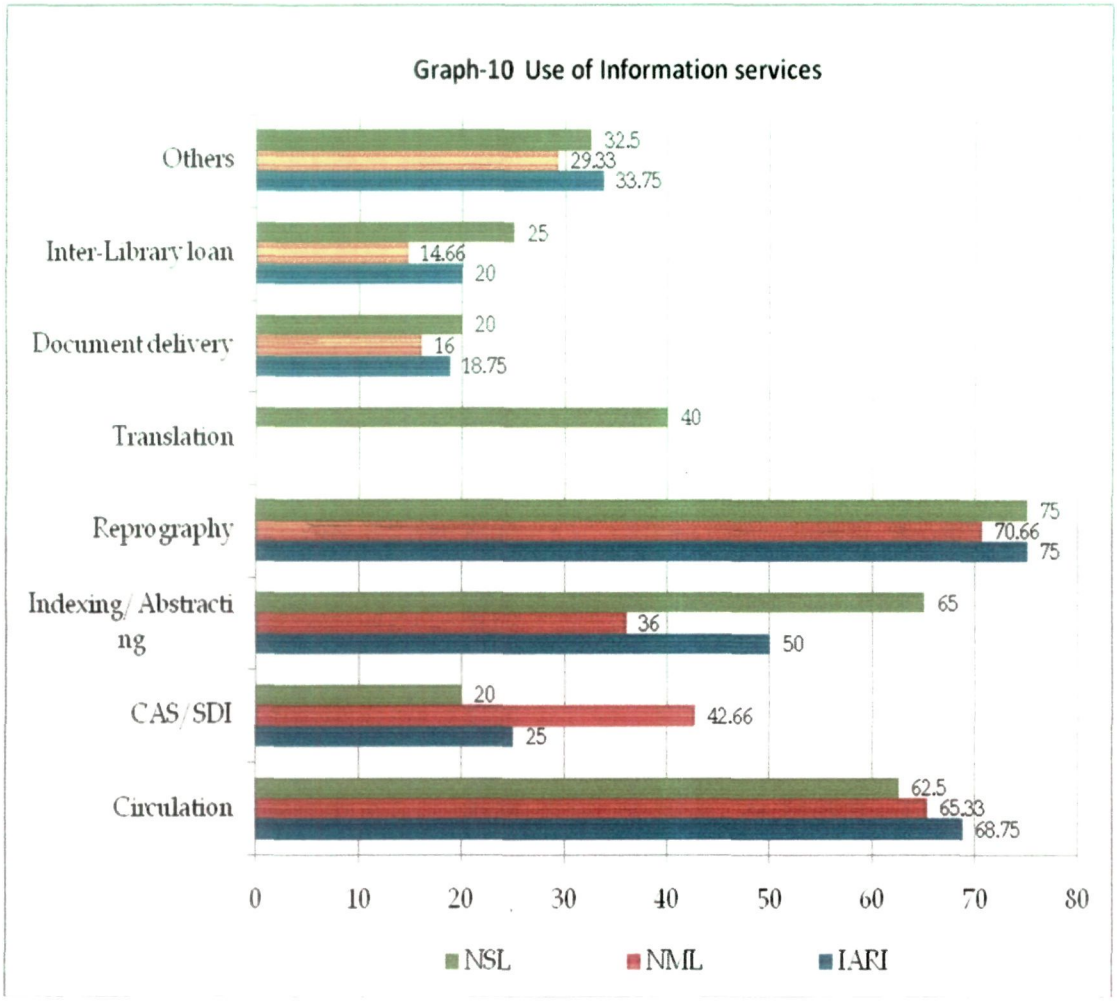
5.2.8 *Use of Information services*

It can be observed from table-9 that the most used information services in IARI are reprography (75.00%) and circulation (68.75%), followed by Indexing/Abstracting (50.00%). Similarly the most used services in NML are reprography (70.66%) and circulation (65.33%). Further, in NML the most used services are reprography (75.00%), Indexing/Abstracting (65.00%) and circulation (62.50%).The overall analysis shows that in all the three libraries reprography is the most used service. The table also reveals that the least used service in all the three libraries are DDS (17.95%) and ILL (18.97%). It is interesting to note that only NSL provides the translation service which is used by 40% of users.

Table 9: Use of Information services

Information services	IARI No. =80	NML No.= 75	NSL No. =40	Total No.=195
Circulation	55 (68.75)	49 (65.33)	25 (62.50)	129 (66.15)
CAS/SDI	20 (25.00)	32 (42.66)	8 (20.00)	60 (30.77)
Indexing/Abstracting	40 (50.00)	27 (36.00)	26 (65.00)	93 (47.69)
Reprography	60 (75.00)	53 (70.66)	30 (75.00)	143 (73.33)
Translation	--	--	16 (40.00)	16 (40.00)
Document delivery	15 (18.75)	12 (16.00)	8 (20.00)	35 (17.95)
Inter-library loan	16 (20.00)	11 (14.66)	10 (25.00)	37 (18.97)
Others	27 (33.75)	22 (29.33)	13 (32.50)	62 (31.79)

(Percentage within parentheses)


Graph-10 Use of Information services
Others
Inter-Library loan
Document delivery
Translation
Reprography
Indexing/ Abstracting
CAS/SDI
Circulation
32.5
29.33
33.75
25
14.66
20
20
16
18.75
40
75
70.66
75
65
36
50
20
42.66
25
62.5
65.33
68.75
0
10
20
30
40
50
60
70
80
NSL
NML
IARI

5.2.9 Satisfaction with various services

Libraries provides a number of services such as circulation, CAS/SDI, indexing/abstracting, reprography, Inter Library Loan services, OPAC, Information services etc. But if the user is not satisfied with the services provided by the library then there is no use of the services.

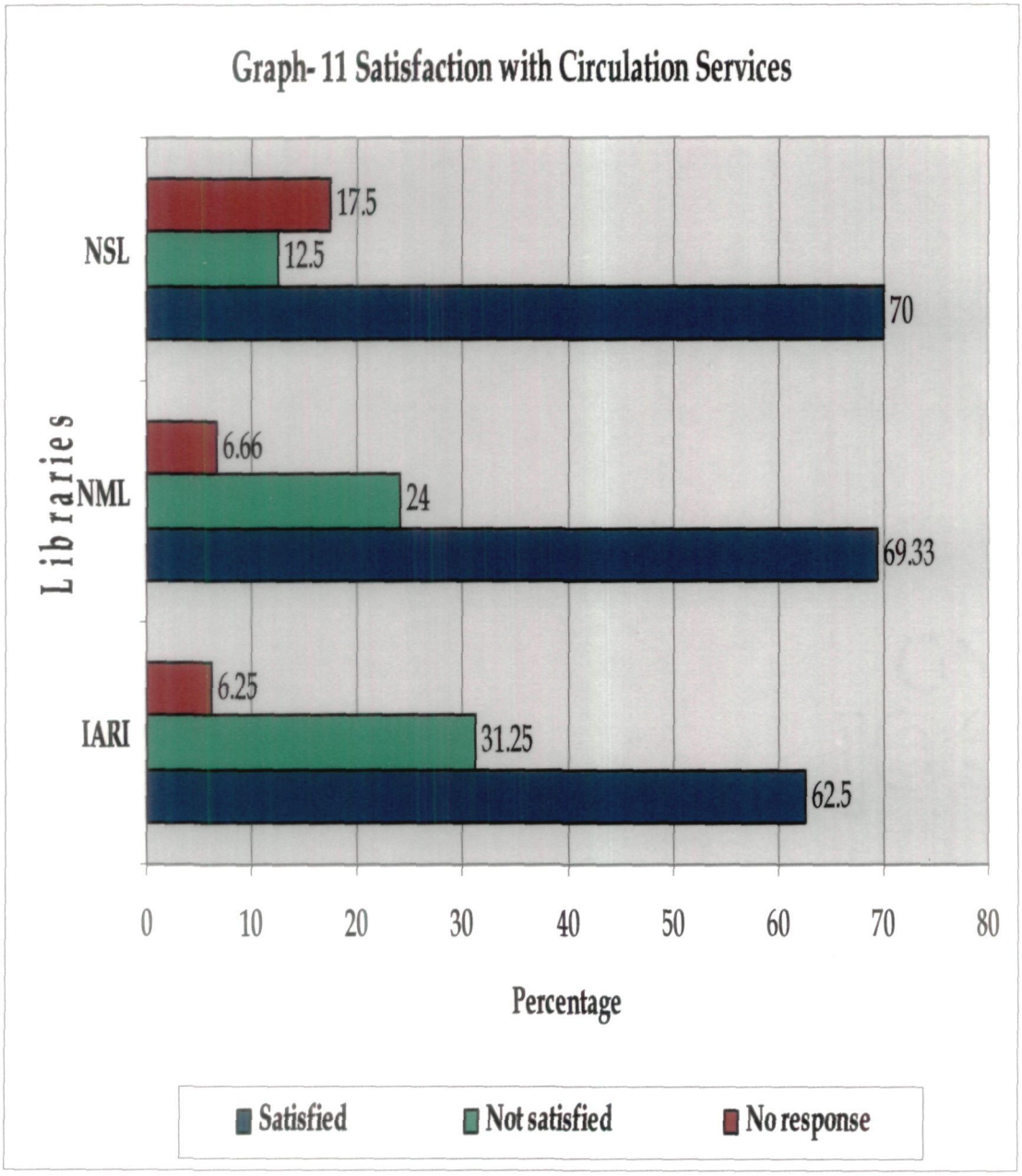
5.2.10 Satisfaction with Circulation Services

Table-10 clearly indicates that most of the users of IARI (62.50%), NML (69.33%) and NSL (70.00%) are satisfied with the circulation services provided by the libraries whereas 8.71% users did not give any response. Hence, it is clear that most of the users of all the three libraries (66.66%) are satisfied with the circulation services.

Table 10: Satisfaction with Circulation Services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	50 (62.50)	25 (31.25)	5 (6.25)
NML No.=75	52 (69.33)	18 (24.00)	5 (6.66)
NSL No.=40	28 (70.00)	5 (12.50)	7 (17.50)
Total No.=195	130 (66.66)	48 (24.61)	17 (8.71)

(Percentage within parentheses)


Graph- 11 Satisfaction with Circulation Services
NSL
NML
IARI
Libraries
17.5
12.5
70
6.66
24
69.33
6.25
31.25
62.5
0
10
20
30
40
50
60
70
80
Percentage
Satisfied
Not satisfied
No response

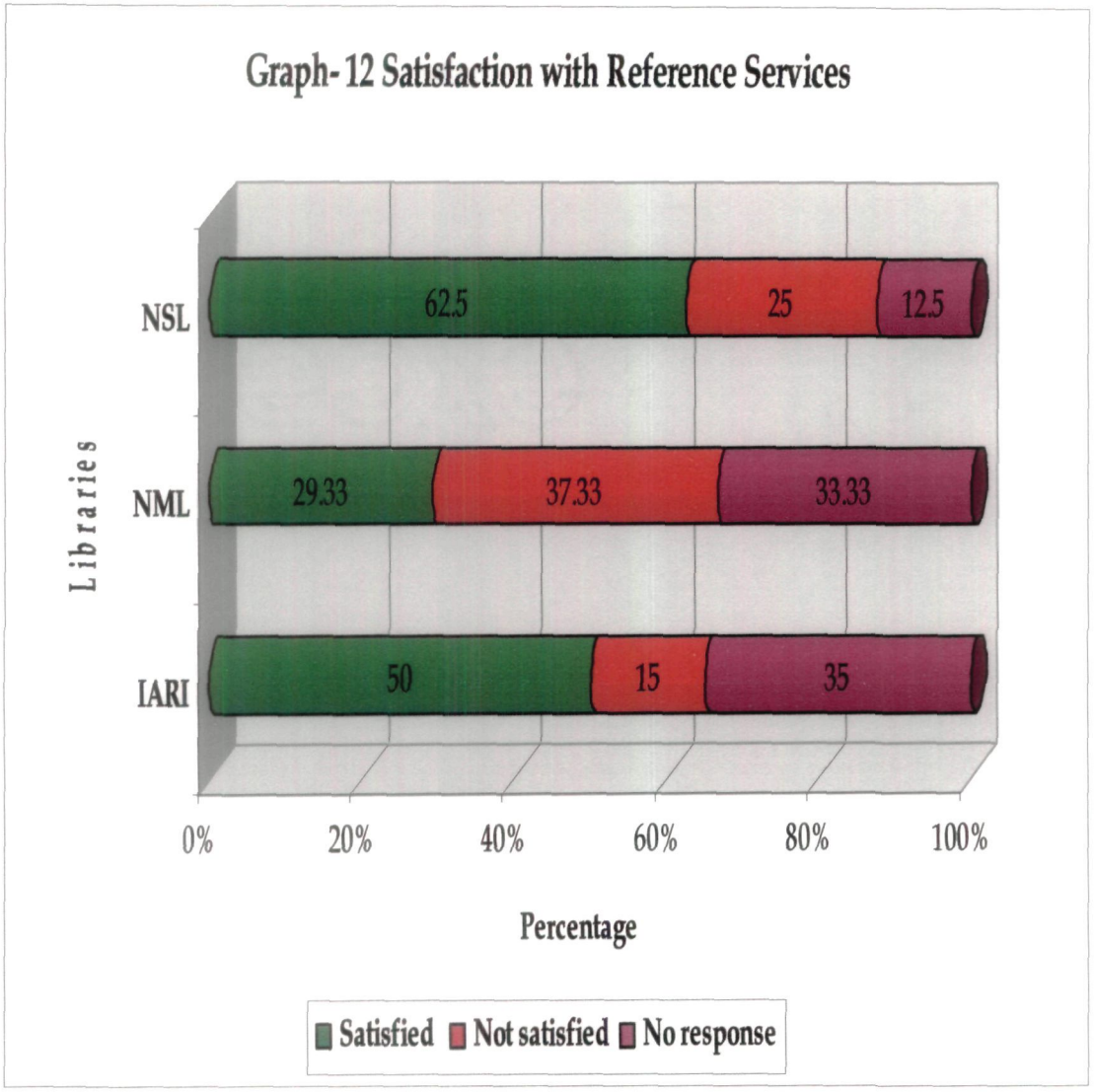
5.2.10.1 Satisfaction with Reference Services

Table-11 reflects the satisfaction of the users with regard to reference services provided by the libraries. It was found that, on the whole, users are satisfied, but in NSL only 62.50 percent and in IARI, 50 percent users are satisfied, whereas in NML 40 percent users were not satisfied and 33.33 percent users did not give any reply. In NSL, 21.54 percent and in IARI, 15 percent responded that they were not satisfied, and 12.50 percent users in NSL and 35 percent in IARI, did not given any response.

Table 11: Satisfaction with Reference Services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	40 (50.00)	12 (15.00)	28 (35.00)
NML No. =75	22 (29.33)	28 (37.33)	25 (33.33)
NSL No.=40	25 (62.50)	10 (25.00)	5 (12.50)
Total No.=195	87 (44.61)	50 (25.64)	58 (29.74)

(Percentage within parentheses)


Graph- 12 Satisfaction with Reference Services
NSL
NML
IARI
62.5
25
12.5
29.33
37.33
33.33
50
15
35
0%
20%
40%
60%
80%
100%
Libraries
Percentage
Satisfied
Not satisfied
No response

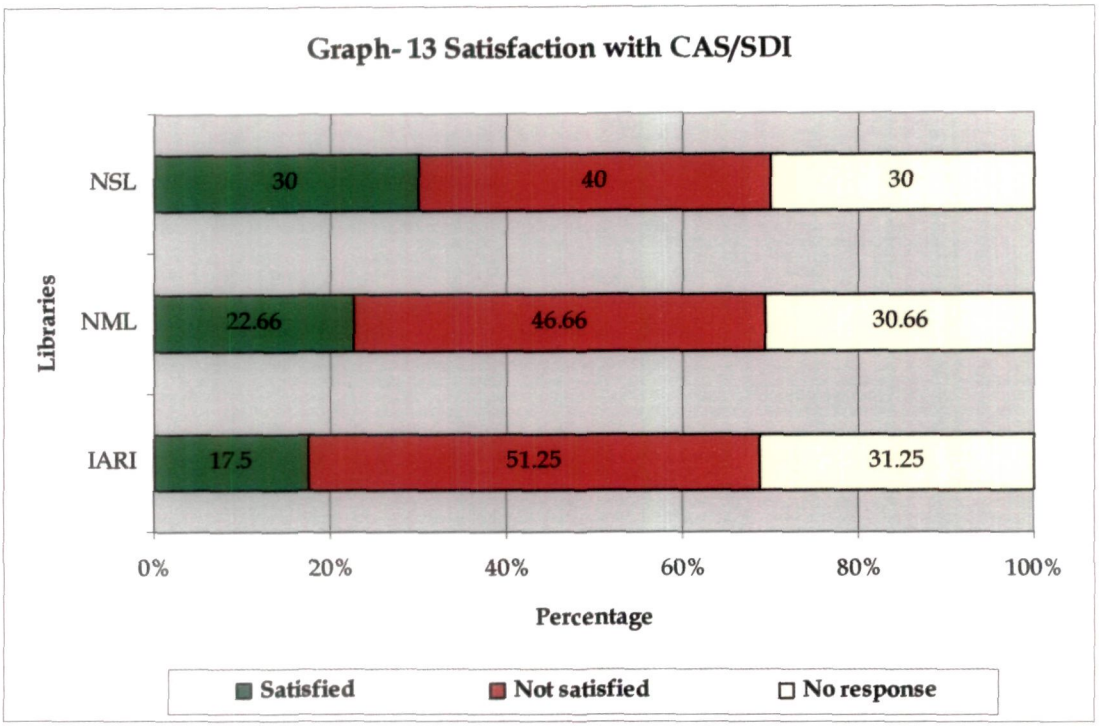
5.2.10.2 *Satisfaction with Current Awareness Service (CAS)/Selective Dissemination of Information Services (SDI)*

Table-12 highlights that majority of the users in IARI (51.25%), NML (46.66%) and NSL (40.00%), were not satisfied with the CAS/SDI services, while 31.25% users of IARI, 30.66% of NML and 30.00% of NSL did not give any reply to this query. Therefore, it is clear that most of the users of all the three libraries are not satisfied with the CAS/SDI services provided to them.

Table 12: *Satisfaction with* Current Awareness Service (CAS)/Selective Dissemination of Information Services (SDI)

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	14 (17.5)	41 (51.25)	25 (31.25)
NML No. =75	17 (22.66)	35 (46.66)	23 (30.66)
NSL No.=40	12 (30.00)	16 (40.00)	12 (30.00)
Total No.=195	43 (22.05)	92 (47.17)	60 (30.76)

(Percentage within parentheses)



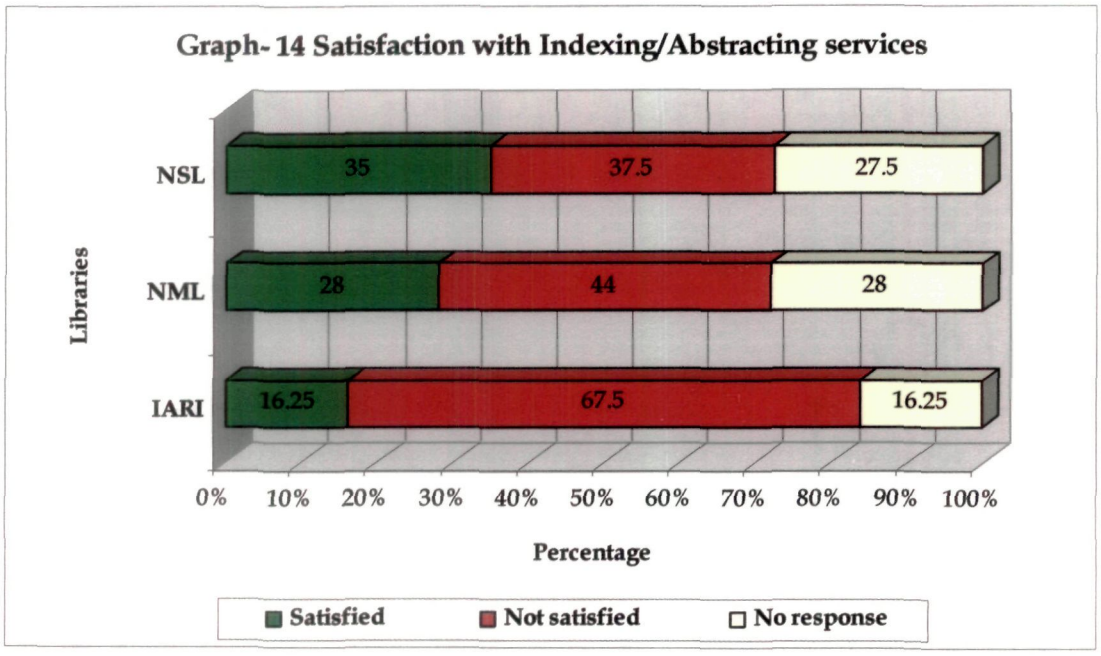
5.2.10.3 Satisfaction with Indexing/Abstracting services

Table-13 demonstrates the satisfaction of users with Indexing/Abstracting services provided by libraries. It was found that only 16.25% users of IARI, 28.00% of NML and 35.00% of NSL are satisfied with Indexing/Abstracting services. However, 30.00% users of IARI, 28.00% of NML and 27.50% of NSL did not give any reply to this query. So, it is clear that majority of the users of IARI, NML are not satisfied with this services.

Table 13: Satisfaction with Indexing/Abstracting services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	13 (16.25)	54 (67.50)	13 (16.25)
NML No.=75	21 (28.00)	33 (44.00)	21 (28.00)
NSL No.=40	14 (35.00)	15 (37.50)	11 (27.50)
Total No.=195	48 (24.61)	102 (52.30)	45 (23.07)

(Percentage within parentheses)



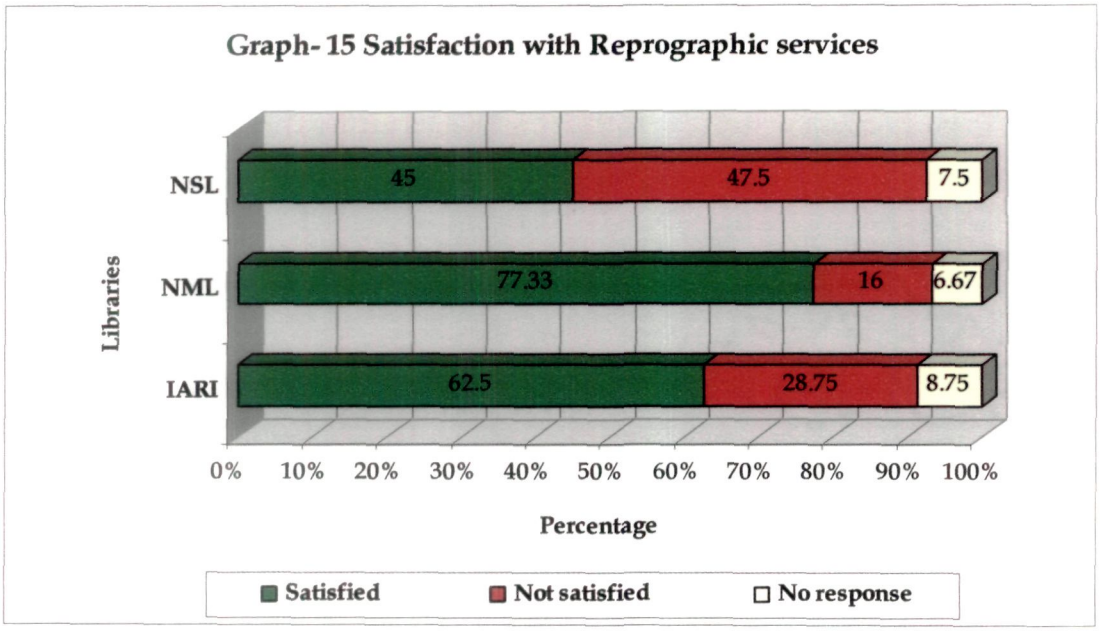
5.2.10.4 Satisfaction with Reprographic services

Analysis of table-14 shows that in NML, large numbers of users (77.33%) are satisfied with the reprographic services, whereas, in IARI (28.75%) and in NSL (47.50%) users are not satisfied with the reprographic services. Out of 195 users, 8.21% users did not respond. The investigator observed that the reason of dissatisfaction could be not getting the material on time or may be that charges are quite high for this service.

Table 14: Satisfaction with Reprographic services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	50 (62.50)	23 (28.75)	7 (8.75)
NML No.=75	58 (77.33)	12 (16.00)	5 (6.67)
NSL No.=40	18 (45.00)	19(47.50)	3 (7.50)
Total No.=195	126 (64.62)	54 (27.69)	16 (8.21)

(Percentage within parentheses)



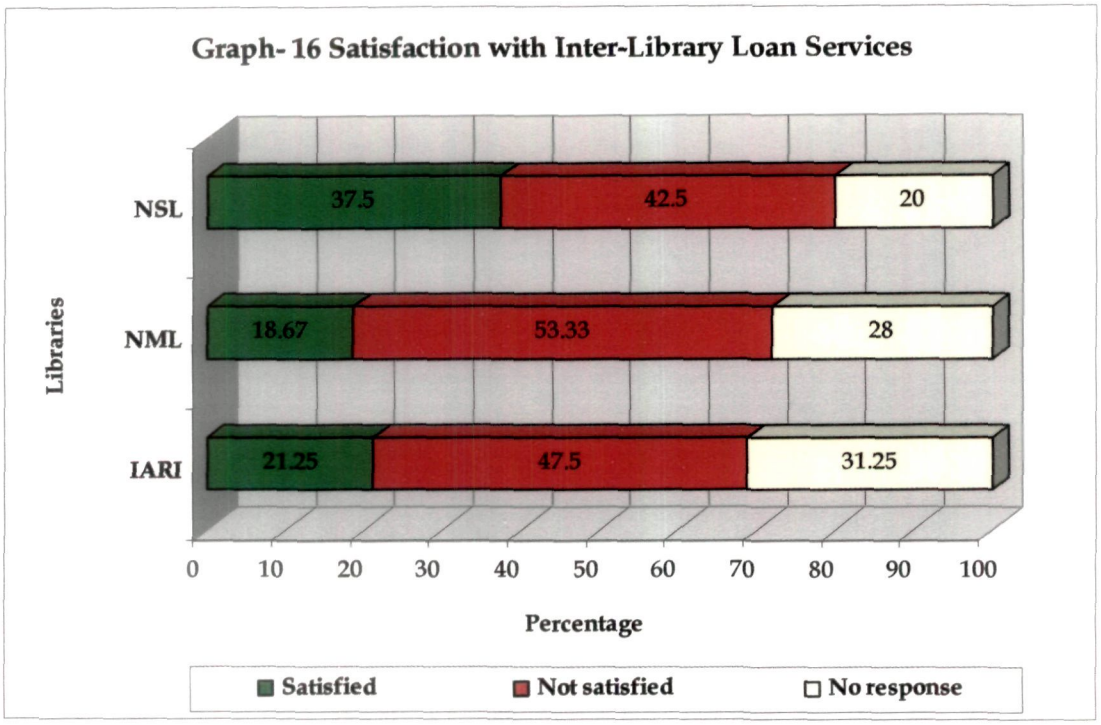
5.2.10.5 Satisfaction with Inter-Library Loan Services

Table-15 points out that 48.71% of users are not satisfied with the inter library loan services, while 27.69% users have not given any response. The table clearly shows that maximum numbers of users are not satisfied with ILL services.

Table 15: Satisfaction with Inter-Library Loan Services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	17 (21.25)	38 (47.50)	25 (31.25)
NML No.=75	14 (18.67)	40 (53.33)	21 (28.00)
NSL No.=40	15 (37.50)	17 (42.50)	8 (20.00)
Total No.=195	46 (23.58)	95 (48.71)	54 (27.69)

(Percentage within parentheses)



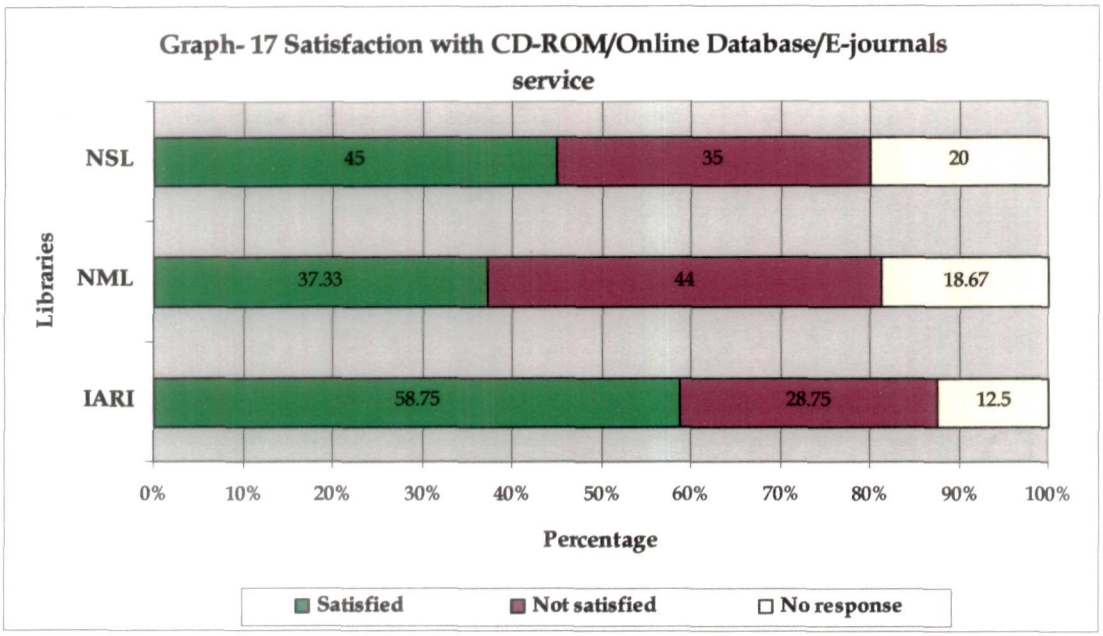
5.2.10.6 Satisfaction with CD-Rom/Online database/E-journals service

Data in Table-16 show that 58.75% users of IARI and 45.00% of NSL are satisfied with CD-Rom/Online Databases/E-journals services etc, But 44.00% users of NML are not satisfied, whereas, 12.50% users of IARI, 18.67% of NML and 20.00% of NSL did not give any response to this question. If the overall data is analyzed it will be found that 47.69% users are satisfied with these services.

Table 16: Sweratisfaction with CD-ROM/Online Database/E-journals service

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	47 (58.75)	23 (28.75)	10 (12.50)
NML No.=75	28 (37.33)	33 (44.00)	14 (18.67)
NSL No.=40	18 (45.00)	14 (35.00)	8 (20.00)
Total No.=195	93 (47.69)	70 (35.90)	32 (16.41)

(Percentage within parentheses)



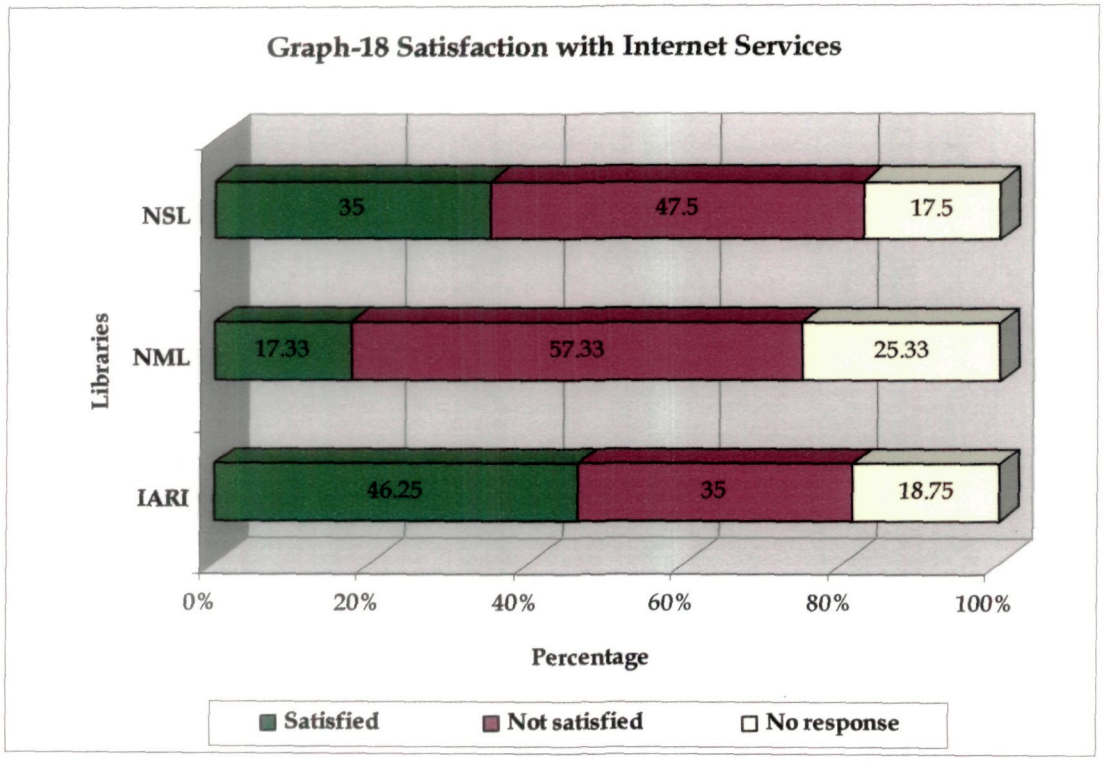
5.2.10.7 Satisfaction with Internet Services

Table-17 reveals that users from all the three libraries i.e. IARI (35.00%), NML (57.33%) and NSL (47.50%) were not satisfied with internet services. The investigator observed that this could be because of the connectivity, and the problem of downloading.

Table 17: Satisfaction with Internet Services

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	37 (46.25)	28 (35.00)	15 (18.75)
NML No.=75	13 (17.33)	43 (57.33)	19 (25.33)
NSL No.=40	14 (35.00)	19 (47.50)	7 (17.50)
Total No.=195	64 (32.82)	90 (46.15)	41 (21.03)

(Percentage within parentheses)



5.2.10.8 Satisfactions with the Sitting Arrangement

Library furniture plays a very important role too. It is important to know the views of users about the furniture and sitting arrangement of the library. Furniture should be of good quality, functional, pleasing and most importantly comfortable for reading.

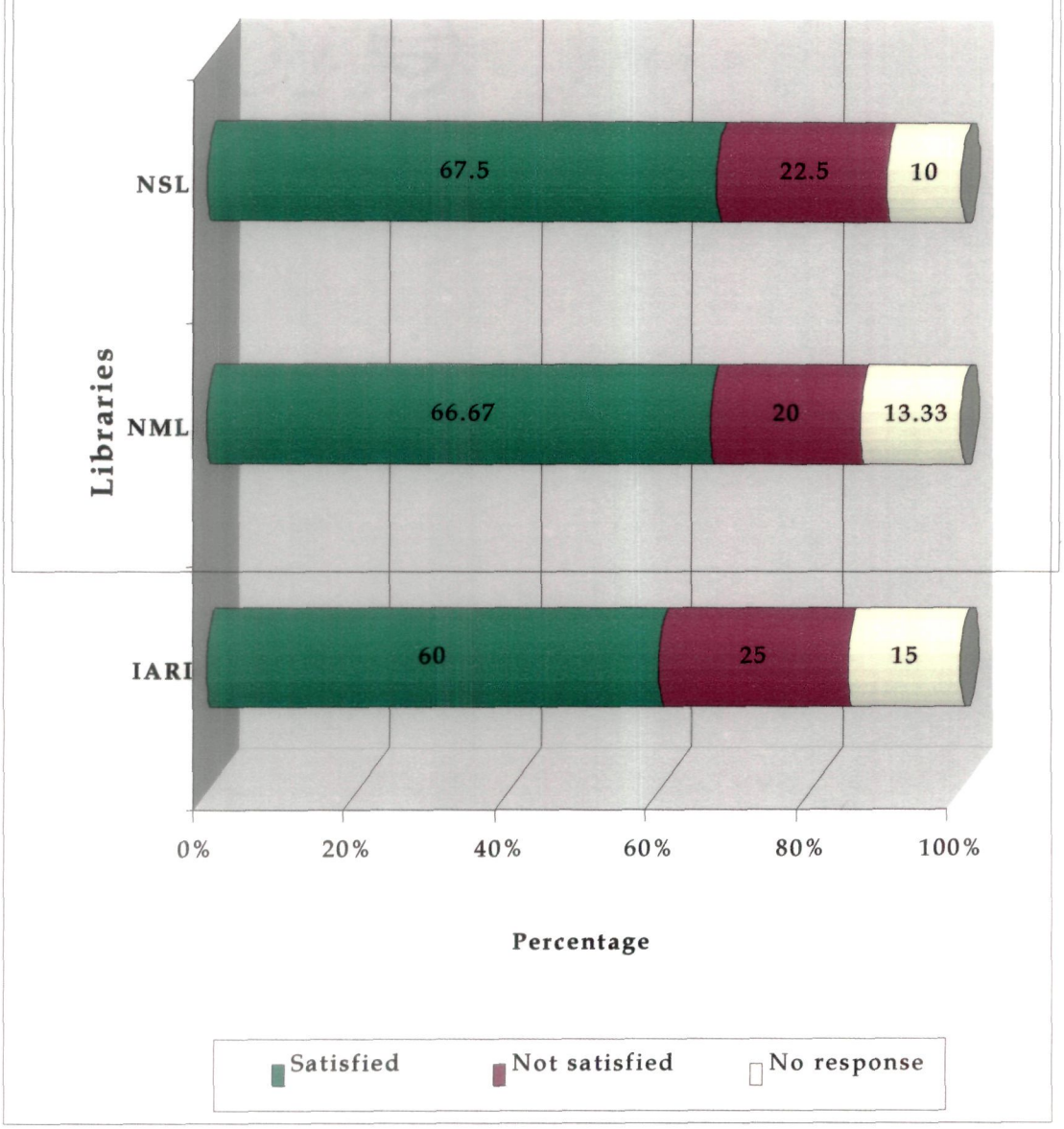
From table-18 it becomes evident that 64.10% respondents are satisfied and 22.50% are not satisfied, whereas 13.33% did not give any response. As far as individual libraries are concerned, (60.00%) of IARI, NML (66.67%) and NSL (67.50%) are satisfied with the sitting arrangement.

Table 18: Satisfactions with the Sitting Arrangement

Libraries	Satisfied	Not satisfied	No response
IARI No.=80	48 (60.00)	20 (25.00)	12 (15.00)
NML No.=75	50 (66.67)	15 (20.00)	10 (13.33)
NSL No.=40	27 (67.50)	9 (22.50)	4 (10.00)
Total No.=195	125 (64.10)	44 (22.56)	26 (13.33)

(Percentage within parentheses)

Graph- 19 Satisfactions with the Sitting Arrangement



5.2.11 *Opinion regarding efficiency of library staff*

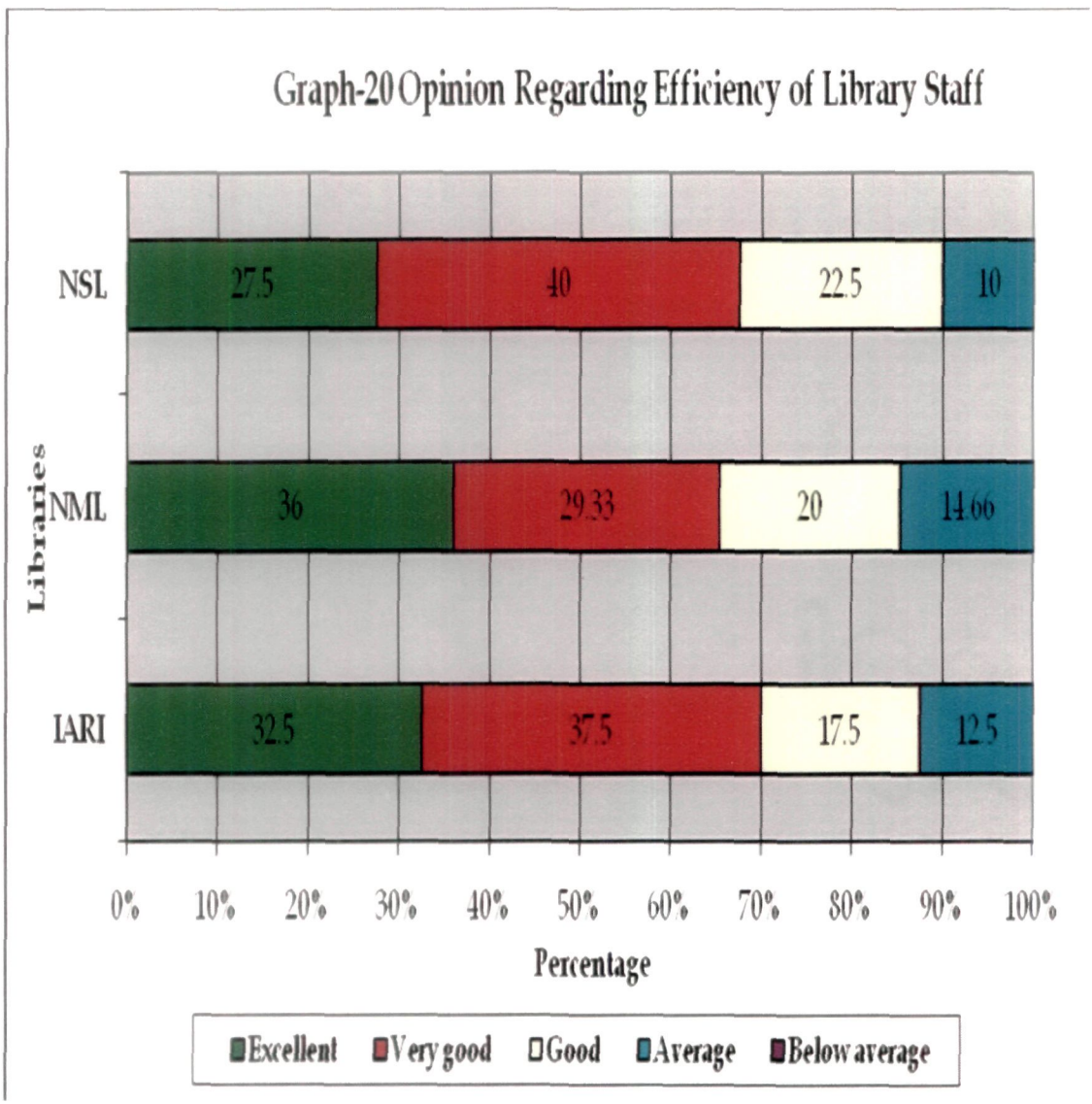
The users were asked to give their opinion regarding the efficiency of library staff. Table-19 indicates that in IARI 32.50% users feel it as excellent; 37.50% said it was very good and 17.50% opined the efficiency of library staff as good. Similarly, in NML 36.00% users indicated it excellent, 29.33% very good and 20.00% placed it as good. In NSL 27.50% opined the efficiency of library staff as excellent, 40.00% said it was very good and only 22.50% feel it to be good.

Therefore, data clearly revealed that opinion about the efficiency of library staff is in favour of very good, followed by excellent, good and average. Not a single respondent opined that the efficiency of library staff was below average.

Table 19: Opinion Regarding Efficiency of Library Staff

Libraries	Excellent	Very good	Good	Average	Below average
IARI No.=80	26(32.50	30(37.50)	14(17.50)	10(12.50)	_
NML No.=75	27(36.00)	22(29.33)	15(20.00)	11(14.66)	_
NSL No.=40	11(27.50)	16(40.00)	9(22.50)	4 (10.00)	_
Total No.=195	64(32.82)	68(34.87)	38(19.48)	25(12.82)	_

(Percentage within parentheses)


Graph-20 Opinion Regarding Efficiency of Library Staff
NSL
NML
IARI
27.5
40
22.5
10
36
29.33
20
14.66
32.5
37.5
17.5
12.5
Libraries
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percentage
Excellent
Very good
Good
Average
Below average

Chapter-6

Conclusion, Findings & Recommendations

CHAPTER 6

CONCLUSION, FINDINGS AND RECOMMENDATIONS

The present study sought to examine the growth, development and services of National Medical Library, National Science Library and Indian Agriculture Library located in New Delhi. This chapter contains the result, conclusion and recommendations based on the survey, literature review and the result of the organizational and perceptual studies.

6.1 Findings

6.1.1 Part 1 Responses received from the Librarian / Head of the library

This part deals with the inferences which have been made after analysis of the questionnaires received from the chief librarian/head of the libraries.

The study identifies that all the libraries under study are still in their developmental stage. The main factors required to be fulfilled for development are availability of qualified staff, availability of funds, availability of Information technology gadgets and application of these technologies in providing information services to the users.

1. The analysis shows that all the libraries have appropriate amount of budget. Out of the three libraries surveyed NSL's budget is higher than other two libraries. It was observed that maximum budget allocated in all the three libraries is for periodicals/journals. Out of these NML has

a handsome amount of budget as compared to other libraries. It was also noted that there is no separate budget for periodicals and electronic sources in NML.

2. The study also reveals that all the libraries have a very exhaustive collection, especially of journals/periodicals, and have access to CD-ROM databases and e-journal resources. NML has acquired maximum number of books and journals, NSL and IARI also have a very rich collection of back volumes of journals. NSL has a very good number of electronic information resources.

It was found that no written policy is available for the acquisition of library materials, rather it is based on the users' need and availability of financial resources.

3. The study depicts that only two classification schemes, DDC and UDC, are used in the libraries. NSL and IARI use UDC, whereas NML uses DDC for classification of books. IARI uses UDC for the classification of journals whereas NML and NSL make alphabetical arrangements of journals. Classification of electronic resources is not done in IARI and NML as they do not follow any kind of arrangement whereas NSL has alphabetical arrangement.

AACR-2 is followed for in all three libraries follow for books and periodicals, but NML does not follow any code for cataloguing of periodicals, it however, NML also uses CCC for cataloguing of books.

For electronic resources is concerned, IARI and NML do not follow any code, whereas NSL has alphabetical arrangement.

4. It has been found from the analysis that NML has the maximum number of staff (62) and NSL has least number of it (11). In NSL, only 5 library professionals exist which is less than 50% of the total staff employed. NML, on the other hand, has 62 library staff out of which only 12 are library professionals. As far as IARI is concerned, out of 42 personnel employed, 27 are library professionals. It is observed that libraries, especially NML and NSL, face problem of shortage of library professionals.

5. Regarding the facilities available in the library, respondents expressed dissatisfaction, because the facilities available either are not sufficient or do not fulfill the demand of the users. However, users of IARI and NSL are satisfied with library software, while NML users are not satisfied with this facility.

6. The study also reveals that reference services, CAS, reprographic, abstracting/indexing and DDS are provided by all the libraries under study. However, only NSL provides translation services, and none of the libraries offer SDI services.

7. As far as retrospective conversion of catalogue is concerned, NSL and IARI have converted almost their entire collections, while NML has done only 25-50%.

It is concluded from the analysis that LibSys is the most used software by the libraries, but NSL uses E-GRANTHALAYA as well.

8. Regarding Charging/Discharging system for books, journals and EIS, all the three libraries use barcode system for Issue/Return of books. However, for journals and EIS, different methods are used for Issue/Return.

9. IARI, NML and NSL provide modern information services, such as OPAC, e-journals and CD-ROM/Online databases but do not provide E-CAS/SDI services.

10. All the three libraries have library automation software with CD-Network facility. Further it can be noted that IARI and NSL have more computer systems as compared to NML. NML and NSL have more printers as compared to IARI.

It has been found from the analysis that all the libraries have CD-Networks. Further, the analysis reveals that IARI has more number of computer systems which are 26, as compared to NML and NSL. As far as printers are concerned, NSL has highest number of printers that is 8, and IARI and NML have 4 and 7 printers respectively.

11. It is also found that all the libraries facilitate their users by providing access to various local and national networks. All the three surveyed libraries participate in DELNET programme. IARI also has ERNET facility.

12. The study depicts that all the three libraries face constraints in providing EIS. It can also be observed that all the libraries face financial, infrastructural and other problems like manpower and training problems etc.

13. The study depicts that due to impact of information technology, library and information service have been improved in all the three libraries. Further, the study also reveals that it has a positive impact on information sources and the strength of users.

6.1.2 Part 2 Responses received from the Users

1. A small percentage of users visit the library occasionally in all the three libraries.

It is noted that a maximum number of respondents of IARI and NSL visit the library daily. However, the users who visit library once in a week were found to be in greater in number in NML as compared to IARI and NSL.

2. It can be noticed that most of the users of all the three libraries visit the library for study, research and teaching purposes.

3. It was found that majority of the users in only NSL said that availability of reading seats are adequate, while maximum percentage of users in IARI and NML said it was not adequate.

4. Overall, periodicals and journals are the most used sources of information as they serve as a source of current information and

bibliographic tools and play a key role. However, books are also a quite often used source of information.

5. The study showed that e-journals are the most used kind of electronic sources of information. Although, a good number of CD-ROM and online databases are also used by users.

6. On the basis of analysis, it was found that most of the users make use of e-resources weekly and daily. The study identifies that a majority of the users visit the library daily.

The study also identifies that the surveyed libraries do not offer any training programme on 'how to use electronic resources' to their users. Majority of the users do not use OPAC because they may not be aware of it, and users are not very well versed with information technology. They are not even aware of the term OPAC.

7. It is deduct from the analysis that the reason which discourages the users to use Information Technology is the lack of printing facilities; another reason, and the most important one, is the connectivity and slow downloading problem which also discourage the use of the e-resources.

8. A good majority of the users in all the three libraries are satisfied with the reprography and circulation services offered by the libraries. It is also clear from the analysis that only NSL provides translation service.

9. A large majority of the users of the three libraries are satisfied with the circulation service as well. Hence, the users demanded more sitting arrangement in the library. Most of the users expressed their view that the staff was very helpful and they were satisfied with the assistance of the staff. Users demand more computer terminals connected with internet and more computer systems are needed in the library.

10. It is evident from the analysis that 44.61% users are satisfied with the reference services, but 29.74% users did not reply to this query.

11. A very low percentage of users (22.05%) are satisfied with the CAS/SDI services. However, about 30% users in all the three libraries did not respond to this query.

12. It is observed that a majority of the users are not satisfied with the Indexing/Abstracting service. 23.07% did not respond to this question.

13. Most of the users of IARI and NML are satisfied with the reprographic services provided by the libraries, while users of NSL are not much satisfied with this service.

14. As far as ILL service is concerned, a majority of the users are not satisfied. However, 27.69% users did not answer this question.

15. The number of users who are satisfied with CD-ROM, online databases and e-journals services were found higher in IARI, than in NML and

NSL. But dissatisfaction with this service was found highest in NML, than IARI and NSL.

16. The study finds that majority of the users of IARI are satisfied with Internet services as compared to NML and NSL. However, overall, there are signs of dissatisfaction among users.

6.2 Tenability of Hypotheses

H 1

The growth and development of the library is a continuous process.

It is observed from the analysis that growth and development is there, but not very significant. So it can be concluded that development is taking place in all the areas of libraries. Therefore, the hypothesis is proved to be true.

H 2

Budget is continuously increasing to cope up the demand of the libraries.

Budget is highly important for any organization. Budget is marginally increasing but not able to meet the increasing demands of the libraries in terms of services and physical facilities etc.

Therefore, this hypothesis is not fully satisfied.

H 3

Developments of the libraries take the form of expansion of physical facilities and services.

The library operation depends on the organization of the materials. It is analyzed that the libraries do not use the same code and schemes for organization of the materials.

So this hypothesis is also not true.

H 4

Libraries are maintaining their traditional services and collections even as they use technology in new ways to deliver services and provide access to information on networks or through document delivery services.

Special libraries maintain their traditional services and collection, even as they use technology in new ways to deliver services and provide access to information on networks or through document delivery services.

The libraries expansion depends on the improvements in physical facilities and services provided by the libraries. It is analyse that the libraries are expending their physical facilities and services. Thus, the findings support the hypothesis.

H 5

The infrastructure facilities and information services available in all the libraries are not sufficient to meet the information needs of the users.

According to the libraries under study, users are not satisfied with the physical facilities available in the libraries, because it is not sufficient to meet

the demands of the users. All the librarians have the view that physical facilities should be increased. So this hypothesis also proved.

H 6

Electronic formats and online databases slowly but surely are becoming an important part of collection of special libraries.

Analysis indicates that all the libraries under study have Electronic formats, given the fact that it is relatively a newer storage medium. Electronic formats is gaining fast acceptability in special libraries. Thus, the findings support the hypothesis.

6.3 Recommendations/Suggestions

In the light of the analysis and findings of the survey, the following recommendations/suggestions are made in order to improve the management and use of library services effectively and efficiently.

- The allocations of budget for collection development are more or less the same in all the three libraries but there is no separate budget for electronic resources in NML. Hence, there should be a provision of separate budget for electronic resources in NML.

- The users suggestion have made under document collection about the addition of more periodicals, especially in electronic form. They have also suggested that as a matter of policy no budgetary cut be made in periodical fund, and periodicals should not be discontinued.

- ❖ It is felt that an attempt should be made to adopt uniform cataloging code and classification scheme for books, periodicals and electronic resources for all the three libraries under study.

- ❖ The facilities like multimedia resources and computer systems should be provided in sufficient numbers and space of reading room should be extended with comfortable furniture.

- ❖ There is no specific provision of CAS/SDI and translation services in any libraries (except NSL) under study. Hence, the libraries should try to provide these services as it would prove very helpful for the researchers.

- ❖ The lending policies be made more liberal and the use of Inter-Library loan facility should be encouraged. All the libraries should provide reprography services at minimum cost.

- ❖ Few users suggested that all the library facilities/services must be widely publicized among the users as some users are unaware about most of the services.

- ❖ The libraries should identify the non-users of electronic sources and proper steps should be taken to covert them into potential users of electronic information services through training.

- ❖ Some of the researchers have suggested that current issues of periodicals must be issued to them for overnight.

- The libraries should start a bulletin board service for posting messages and announcement to inform users about new electronic scientific resources.

- Majority of the users are searching electronic literature on their own, therefore user training is essential for the better use of electronic resources in the library and library authorities should take necessary steps in this regard.

- To overcome the problem of slow downloading from the internet all the libraries should acquire high speed internet connection.

- The libraries should conduct user study programs to know more about electronic information needs of the users.

- The staff appointed for user assistance should be properly trained and technically sound.

- There should be a proper method of Issuing journals/periodicals in all the libraries.

- e-CAS/e-SDI services should be provided by all the three libraries.

- There should be a consortia-based subscription to electronic resources in science and technology libraries because it would provide access to wider number of electronic resources at a comparatively lower cost.

- A national council/agency similar to RRRLF should be set-up for science and technology libraries to advise the librarians suitably in adopting the modern technologies.

- The Governmental authorities in the country, especially Ministry of Human Resource and Development and Science and Technology, should regard library resources as important national resources and give better support to science and technology libraries.

- Workshops and meetings should be arranged from time to time to introduce modern technology to the librarians/Head of the libraries and library professionals.

- Orientation/refreshers courses must be provided to the staff so as to render better and efficient services to the users.

- Professional library staff should be given opportunities for their professional development through participation in conferences, seminars etc. This will result in qualitative improvement in the functioning of the libraries.

- The Government should take initiative to set-up an agency for organizing compulsory time bound IT training program for science and technology libraries personnel, like UGC's(University Grants Commission) orientation/refresher course programs for university library professionals in the country.

6.3.1 Others

- Proper checking system should be devised there to avoid misplacing and loss of documents.
- All science and technology libraries should prepare and provide list of useful scientific websites and OPAC sites to their users.
- Library schools should pay more attention to imparting education for special librarianship.
- Installation of AC in the library is essential as a conducive environment are required for studies.
- All the three libraries under study should introduce complaint/suggestion box to get proper feedback.
- Adequate infrastructural facilities should be provided for proper functioning of the libraries and better utilization of library resources and services.

6.4 Recommendation for Further Research

In the study some important aspects could not be covered due to the limitation of the study.

There is need to study in depth all the important aspects related to:

- The issues related to the Information management in Science and Technology libraries in association with the various social, technological and behavioral issues such as: a) Motivational; b) Personality; c) Job satisfaction: d) Career advancement; e) Organizational climate etc.

- The present study is limited to the broad aspects of Growth, development and services in select subject libraries in Delhi, there is need to conduct such study in depth in all subject libraries in India.
- It is also suggested that similar kind of studies can be undertaken in Social science libraries in Delhi.
- There is also a need to undertake study related to growth development and use of electronic information resources in special libraries in the country.
- A comparative study on Information management in science and technology libraries in the developed and underdeveloped countries can be conducted.

Bibliography

BIBLIOGRAPHY

1. Ahmad Elhafiz Ibrahim (2004), "Use and user perception of electronic resources in the United Arab Emirates University (UAEU)", *Libri*, Vol.50 No.1, pp.18-29

2. Ahmed, B. (1989), "Agricultural libraries in Kashmir: A survey", *Annals of Library Science and Documentation*, Vol. 36 No. 3, pp. 75-84.

3. Aina, Joseph O. (1997), "Usage of resources in the Ilorin branch of the National Library of Nigeria", *Herald of Library Science*, Vol.36 No.1-2, pp.73-76.

4. Akhtar Hussain and Krishna Kumar (2006), "Use, collection and services of IIRS Library: a survey", In: SS Bandyopadhyay, B Sutradhar and SK Pathak (eds.), Information management in digital library, *Proceeding of the National Conference of Central Library, IIT Kharagpur 2006.* Radical Impression, pp. 643-646.

5. Alemna, A. A. (1993), "Agricultural information provision in Ghana: The role of the library", *IAALD Quarterly Bulletin*, Vol. 38 No. 1, pp. 22-26.

6. Ama, L. O. (1991), "Information for successful agriculture", *Third World Libraries*, Vol. 2 No. 1, pp. 55-58.

   Amritpal Kaur (1994), "Agricultural information services in India: their growth and present status in the libraries of Agriculture Universities and Research Institute", *Library Herald*, Vol. 32No. 3-4, pp. 100-14.

7. Amritpal Kaur (1997), "Use of computers and CD-ROM in the libraries of agricultural universities and research institutes in the States of Punjab,

Haryana and Himachal Pradesh: a study", *ILA Bulletin*, Vol. 32 No. 3-4, pp. 6-10.

8. Andre, Pamela Q. J. (1986), "Full text access and laser videodiscs: the National Agricultural Library System", *Library Hi Tech*, Vol. 4 No. 1, pp. 13-21.

9. Andre, Pamela Q. J. and Eaton, Nancy L. (1988), "National agricultural text digitizing projects", *Library Hi Tech*, Vol. 6 No. 3, pp. 125-134.

10. Andre, Pamela Q. J. and Pisa, M.G. (1994), "Managing national resources in a time of change: the National Agricultural Library", *Library perspective*, Vol. 15 No. 7, pp. 16-22.

11. Anis Khurshid (1972), "Growth of libraries in India", *International library review*, Vol.4, pp. 21-65.

12. Anita Bali (1997), "Collection development in NISTADS library", *DESIDOC Bulletin of Information Technology*, Vol. 17 No. 2, pp. 15-22.

13. Arnofsky, Julius and Korgfage, Rovert (1977), "Telecommunication in library networks: a five-year projection" *Journal of Library Automation*, Vol. 10 No.1, pp. 5-27.

14. Ashu Shokeen and Kaushik, Sanjay K. (2002), "Information seeking behaviour of social scientists of Haryana Universities", *Library Herald*, Vol.40 No.1, pp.28-35.

15. Astall, Ronald (1966), *Special libraries and information bureaux*, London: Clive Bingley.

16. Asundi. A.Y. and Kabir, S. H. (1996), "Evolving criteria for identification and selection of core periodicals in a subject: a case study of Indian horticulture", *LSSDIS*, Vol. 33 No. 2, pp. 73-83.

17. Aswath, L. (1998), "University of Agricultural Sciences Library (GKVK) Bangalore: structural evaluation of the library building", *LSSDIS*, Vol. 35 No. 1, pp. 47-58.

18. Axiim, George H., and Thorat, Sudhakar (1972), *Modernizing world agriculture: a comparative study of agricultural extension education systems,* New York: Praeger Publishers.

19. Balson, David A. (1987), "CGNET: a data transfer network for the CGL&R", *IAALD Quarterly Bulletin,* Vol. 32 No. 1, pp. 39-45.

20. Banerjee, S.R. (1975), "Agricultural libraries in Delhi", *Indian Library Association Bulletin,* Vo. 11 No. 34, pp. 47-51.

21. Bania, P. and Saibaba, B. (1992), "A plan for cooperation and networking among engineering and technology libraries in India," *Annals of library science and documentation,* Vol. 39 No. 3, pp. 160-164.

22. Bankapur, M B. (1977), "Need for National Agricultural Information Centre in India", *Indian Library Association Bulletin,* Vol. 13 No. 1-4, pp. 91-93.

23. Beheshti, Jamshid, Large, Andrew and Ravi, Pat (2003), "Cost savings to Canadian University and large urban public libraries from their use of national library of Canada MARC records", *Library Resources & Technical Scrvices,* Vol. 47 No.2, pp. 44-55.

24. Bell, D. (1983), "Review of education and training for agricultural library and information work", *IAALD Quarterly Bulletin,* Vol. 28 No. 2, pp. 53-62.

25. Bharadwaja, B.L. (1967), "Libraries in India: a survey", *Cultural forum,* Vol. 9, pp. 326.

26. Bhat, V. S. (1989), *Information resources in agricultural research. Forty Years ofAgricultural Research in India,* New Delhi: ICAR, pp. 268-282.

27. Bhatt, R. K. (1995), *History and Development of libraries in India,* New Delhi: Mittal Publication.

28. Biradar, B.S., Sampathkumar, B.T. and Anilkumar, M. (2003), "Information use pattern by sericulture scientists: a case study of

Karnataka state sericulture research and development institute library", *SRELS Journal of Information Management,* Vol. 40 No.3, pp. 255-65.

29. Bloch, Thomas (1981), "Agricultural libraries of Nepal", *IAALD Quarterly Bulletin,* Vol. 26 No. 3, pp. 85-88.

30. Bonaimo, Alessandro (1992), *The agricultural and food sector in the global era,* New Delhi: Concept.

31. Bose, P. C. (1976), "Agricultural information systems", *Annals of Library Science and Documentation,* Vol. 23 No. 1, pp. 45-47.

32. Bose, P. C. (1986), "AGRIS-International Information System in Agriculture: participation by India", *NISSAT Newsletter,* Vol. 5 No. 4, pp. 7-15.

33. Boyce, James K. and Evenson, Robert E. (1975), *Agricultural research and extension programmes,* New York: Agricultural Development Council.

34. Bradley, Jana (1996), "The changing role of health information and health information work: a conceptual framework", *Bulletin of Medical Library Association,* Vol. 84 No. 1, pp. 1-10.

35. Brindley, Lynne (2005), "The British Library: its origins, development and future", *Interlending and Document Supply,* Vol. 33 No. 2, pp. 76-80.

36. Broadbent, K P. (1987), "Mobilizing local capabilities for more effective exchange of information in developing countries: agriculture as an example", *IAALD Quarterly Bulletin,* Vol. 32 No. 2, pp. 79-101.

37. Butler, Robert W. (1979), "Development and preparation of the collection development policy of the National Agricultural Library", *IAALD Quarterly Bulletin,* Vol. 24 No. 4, pp. 100-103.

38. Casorso, T M. (1992), "NCSU digitized document transmission project: improving access to agricultural libraries", *The Electronic Library,* Vol. 10 No. 5, pp. 27 1-273.

39. Casorso, Tracy M. (1991), "The North Carolina State University Libraries and the National Agricultural Library Joint Project on transmission of digitized text: improving access to agricultural information", *Reference Services Review*", Vol. 19 No. 1, pp. 15-21.

40. Ceeney, Natalie (2004), "The British Library: Delivering the world's knowledge: some recent developments', *Interlending & Document Supply*, Vol. 32 No. 4, pp. 234-38.

41. Chaudhri, D. P. (1979), *Education, innovations, and agricultural development*, London: Croom Helm Ltd.

42. Chhotey Lal (1995), "Development of Agricultural libraries in India in the post-independent era", *Library Herald*, Vol. 33, pp. 23-33.

43. Chhotey Lal (1998), *Agricultural libraries and information systems: a handbook for users*, New Delhi: R.K. Techno science agency, p.290

44. Chhotey Lal, (1995), "Development of Agricultural Libraries in India in the post-independence era", *Library Herald*, Vol. 33 No.1-2, p. 22.

45. Choukhande, Vaishali G and Kumar, P S G. (2004), "Analytical study of information needs and use patter of faculty members and research scholars of Amrawati University", *ILA Bulletin*, Vol.40 No.3, pp.23-31.

46. Clavel, Genevieve (2004), "National libraries as access points: the role of TEL and MACS", *International Cataloguing and Bibliographical control*, Vol. 33 No. 3, pp. 50-53.

47. Craig, Gillian M. (1980), "Information systems in UK agriculture: final report of the Agricultural Information Review Committee", *ASLIB Proceedings*, Vol. 32 No. 5, pp. 201-207.

48. Curry, Ann and Smith, S. Tracie (1998), "Information on alternative medicine: a collection management issue", *Bulletin of Medical Library Association*, Vol. 86 No. 1, pp. 95-100.

49. Dali, Keren (2004), "Reading by Russian speaking immigrants in Toronto: use public libraries, bookstores, and home book collections", *The Internectional Information & Library Review*, Vol. 36 No. 4, pp. 341 -66.

50. Demas, Samuel et al. (1985), 'Developing and organizing collections of computer-readable information in an agricultural library", *IAALD Quarterly Bulletin*, Vol. 30 No. 3, pp. 66-72.

51. Deshmukh, P P. (1980), "Role of an agricultural university library in technology transfers in agriculture", *Annals of Library Science and Documentation*, Vol. 27 No. 1-4, pp. 34-40.

52. Deshmukh, P P. (1987), *Information systems for agricultural sciences and technology*, New Delhi: Metropolitan.

53. Deshmukh, P. P. (1990), *Standardisation of library and information services with special reference to scientific and agricultural libraries*, New Delhi: ABC.

54. Deshpande, S. P. (1985), "Role of agricultural libraries in dissemination of agricultural information", *Herald of Library Science*, Vol. 24 No. 1-2, pp.18-22.

55. Devarajan G and Rahelamma, A.V. (eds) (1990), *Library computerization in India*, New Delhi: Ess Ess.

56. Devarajan, G. (1993), *Resource allocation in university libraries*, New Delhi: Ess Ess.

57. Devi, A. S. and Lahiri, R. (1997), "Information seeking behavior of the agricultural extension agencies: a case study", *International Information Communication and Education*, Vol. 16 No.2, pp. 196-203.

58. Dixit R. P. (1993), "Assessment of health literature information services in Indian health science libraries," *International Information and Library Review*, Vol. 25, pp. 167-168.

59. Dixit, R.P. (1993), "Assessment of health literature information services in Indian health science libraries", *International information and library review*, Vol. 25 pp. 165-182.

60. Dulle, F. W. (1999), "Networking agricultural libraries in Tanzania: possible applications of information technology", *Information Technology for Development*, Vol. 8 No. 3, pp. 163-168.

61. Dutta, D.N. (1975), *Libraries and their users*, Calcutta: World Press.

62. Easwara Reddy, D B. (1987), "Agricultural information transfer in India", *Information Development*, Vol. 3 No. 3, pp. 167-170.

63. Easwara Reddy, D. B. (1987), "Information services and document delivery in food and agriculture in India", *IAALD Quarterly Bulletin*, Vol.32 No. 1, pp. 31-37.

64. Edwards, Philip M. (2004), "Collection development and maintenance across libraries, archives and museums: a novel collaborative approach", *Library Resources and Technical Service*, Vol. 48 No.1, pp.26-32.

65. Edwards, S. (1993), "Indexing practices at the National Agricultural Library", *Cataloging and Classification Quarterly*, Vol. 16 No. 3, pp. 89-97.

66. Eveland, J and Svenning, Lyime (1969), *Modernization among peasants: the Impact of communication*, New York: Holt, Rinehart & Winston.

67. Evenson, Robert, and Tha, Davanatha (1973), "Contribution of agricultural research systems to agricultural production in India", *Indian Journal of Agricultural Economics*, Vol. 28 No. 4, pp. 212-230.

68. Frierson, Eleanor and Zoellick, Pauline A. (1991), "Information needs in agriculture and markets for CD-ROM products: results of a joint market study", *IAALD Quarterly Bulletin*, Vol. 36 No. 12, pp. 139-145.

69. Funk, Carla J. (1988), "Evolving roles of life and health sciences librarians for the twenty-first century", *Bulletin of Medical Library Association*, Vol. 86 No. 3, pp. 380-383.

70. Gajendra Singh et al. (1997), "Strategies for development of agricultural research information system: ICAR experience", *Journal of Higher Education*, Vol. 20 No. 2, pp. 171-192.

71. Gessesse, Kebede (1988), "Agricultural library and information development in Botswana: a profile", *IAALD Quarterly Bulletin*, Vol. 33 No. 3, pp.117-119.

72. Girija Kumar (1986), *Library development in India*, New Delhi: Vikas Publishing House.

73. Goia, L. (1993), "Agricultural higher learning libraries: present and hope", *Journal of Agricultural and Food Information*, Vol. 1 No. 2, pp.63-72.

74. Goia, L. (1994), "The state of the University of Agricultural Sciences Library, Cluj-Napoca, Romania, 1991-1992", *IAALD Quarterly Bulletin*, Vol. 39 No.3, pp. 267-268.

75. Goldberg, E. D. (1996), "Information for research on sustainable agriculture in tropical America: a collective challenge", *IAALD Quarterly Bulletin*, Vol. 41 No.1, pp. 125-131.

76. Guha, B. (1983), *Documentation and Information: Services Techniques and Systems*, Calcutta: World Press, p.161.

77. Guha, B. (1983), *Documentation and information: Systems, techniques and services*, 2nd ed., Calcutta: World Press, pp.19-20.

78. Gupta, Anuradha (1994), *Government of India libraries: their growth, development and services*, Delhi: B.R. Publishing Corporation.

79. Gwiim, N. E. (1994), "A national preservation program for agricultural literature", *Journal of Agricultural and Food Information* Vol. 2 No. 2, pp.25-49.

80. Gyurk, I. (1993), "Challenge for Hungarian agriculture: a new information infrastructure", *Journal of Agricultural and Food Information*, Vol. 1 No. 2, pp. 39-44.

81. Hanifuddin, Md. and Harun-ur-Rashid, Md. (2002), "Networking of Agricultural information systems in Bangladesh (BD-AGRINET): a model", *Library Herald*, Vol. 40 No.1, pp.1-19.

82. Hansra B. S., Perumal, G. and Chandrakandan, K. (2001), *Modernizing Indian Agriculture in the century: Challenges, Opportunities and strategies*, New Delhi: Concept.

83. Hayes, Kathleen C. (1990), "The role of libraries in technology transfer for agriculture", *Science and Technology Libraries*, Vol. 11 No. 2, pp.77-88.

84. Hingwe, K.S. (1968), "Libraries and research: aims and resources", *ILA Bulletin*, Vol. 4, pp.1-6

85. Hott, B. (1959), "Library needs of India", *Library Herald*, Vol. 5, pp. 16-18.

86. Houng, M H., Lewis, A. (1993), "Information services for agriculture in Dominica", *IAALD Quarterly Bulletin*, Vol. 38 No. 2-3, pp.47-55.

87. Howard, Joseph (1994), "Chief resources and services for Agricultural information activities of NAL", *Herald of Library Science*, Vol.33 No. 3-4, July - October, pp. 167-70.

88. Howard, Joseph H. (1986), "The National Agricultural Library as a source of agricultural information", *IAALD Quarterly Bulletin*, Vol. 31 No.3, pp. 131-135.

89. Hutchinson, B. (1999), "Conducting a library evaluation in Tamil Nadu", *Information Outlook*, Vol. 3 No. 6, pp.14-16.

90. Ibid., 23-26.

91. Ibid., 24

92. Ibid., 31-34.

93. Ibid., P. 21.

94. India, Ministry of Health and Family Welfare, Annual Report (1993-94) New Delhi: Manager of Publications.

95. India, Ministry of Information and Broadcasting (1997), *India: a reference annual (1996)*, New Delhi: Publications Division.

96. INSDOC:Annual Report (1993-94), New Delhi: INSDOC: p. 20

97. International Organization for Standardization (1982), *Information transfer*, Ed.2, Geneva: International Organization for Standardization

98. Jackson, George (1982), "The scope of agricultural serials literature of the Science Reference Library", *Aslib Proceedings*, Vol. 34 No. 4, pp.198-202.

99. Johnson, Ethel M (1915), "The special library and its problems", *Special libraries*, Vol. 6, p.158.

100. Katogi, Masakatsu (1994), "National Diet Library", *Herald of Library Science*, Vol. 33 No. 3-4, July-October, pp. 179-82.

101. Kaula, P.N. (1965), Facets and Phases of Indian library development, In: Sen, N.B. (ed.) *Development of libraries in new Delhi*, New Delhi: New Book Society of India, pp. 158-167.

102. Kaula, P.N. (1993), "Status of Government of Indian libraries and the challenging task of their development", *Herald of Library Science*, Vol. 32 No.3-4, pp 203-12.

103. Kent, Allen. and Galvin, Thomas, J. (1979), *The Structure of Governance of Library Networks*, New York:Marcel Dekker.

104. Korale, S.R. (1984)13, "National library development and legislation in Sri Lanka: a review", *Journal of Library and Information Science*, Vol.9 No.2, pp.118-44.

105. Krishnamurthy, C.S (1962), "Libraries of the future" *Library Herald*, Vol. 5, pp. 18-22.

106. Krishnamurthy, M. (2001), "Development of computer catalogue at Indian Statistical Institute, Bangalore Centre Library", *SRELS Journal of Information Management*, Vol. 38 No. 4, pp. 327-33.

107. Kumar, R.P and Pupinder Kumari (2002)7, "Metamorphosed Health information professionals for 21st century: the current scenario and future perspective in Indian Health Science Libraries", IASLIC *Bulletin*, Vol. 47 No. 4, pp. 220-44.

108. Kumari, P.K. Sheena (1997), "Information use patter of researchers in pure sciences: a study of the Ph.D. scholars of the University of Kerala", *Kelpro Bulletin*, vol. 1 No.1, pp.27-39.

109. Lal, C. (1998), "Growth of agricultural libraries in India in the post-independence era", *DESIDOC Bulletin of Information Technology*, Vol. 18 No. 2, pp.13-20.

110. Lal, C. and Bhatia, S. (1993), "Adoption of information technology by agricultural libraries in India", *Annals of Library Science and Documentation*, Vol. 40 No. 1, pp.6-11.

111. Lancaster, F.W. (1977), *Measurement and evaluation of library services*, Washington: Information resource press.

112. Lassanyi, M. E. (1995), "Information centers of the National Agricultural Library, U.S. Department of Agriculture", *Journal of Agricultural and Food Information*, Vol. 3 No.1, pp. 443-452.

113. Lawrence, G W. (1996), "US agricultural statistics on the Internet: extending the reach of the depository library", *Journal of Government Information*, Vol. 23 No. 4 pp. 443-452.

114. Lee, Hur-Li (2005), "The concept of collection from the user's perspective", *Library Quarterly*, Vol. 75 No.1, pp. 67-85.

115. Lilley, G P. (1981), *Information sources in agriculture and food science*, London: Butterworths.

116. Livingston, E D. (1998), "Agricultural university libraries in India", *Herald of Library Science*, Vol. 37 No. 1-2, pp. 67-72.

117. Lohar, M.S and Kumbar, Mallinath (2002), "Use of library facilities and information resources in Sahyadri College, Shimoga (Karnataka): a study", *Annals of Library and information Studies,* Vol. 49 No. 3 pp.73-87.

118. Maharana, Bulu, Choudhury, B.K. and Dutta, Syemashree(2004), "Collection development of electronic information resources in the R&D libraries of Kalkata City: a survey", *Library Herald,* Vol.42 No.3, pp.235-46.

119. Majumdar, H.K. (1958), "Growth of a library", *Indian librarian,* Vol.13, pp. 107-110.

120. Malhan, I V and Aujasbir Kaur (1981), "An assessment of reprographic resources in Indian agricultural university libraries". *Annals of Library Science and Documentation,* Vol. 28 No.1-4, pp. 103-116.

121. Malhotra, H K. (1990), "User studies in libraries of agricultural universities", *Annals of Library Science and Documentation,* Vol. 37 No. 2, pp.53-58.

122. Mangla, P B. (1988), "Agricultural libraries in India: an overall view", *Journal of Library and Information Science,* Vol. 13 Vol. 2, pp. 97-98.

123. Martine,Elaine Russo and Lanier Don (1996), "Networking consumer helth information: bringing the patient into the medical loop", *Bulletin of Medical Library Association,* Vol. 84 No. 2, pp. 240-46.

124. McVey. E M and Hanfman. D T. (1993), "National evaluation of user profiles in aquaculture", *Journal of Agricultural and Food Information,* Vol. 1 No.2, pp 107-124.

125. Mendelsohn, Henry N. (1997), "Services in Automated libraries: challenges and opportunities", *IASLIC Bulletin,* Vol. 42, pp. 27-34.

126. Metcalf, Thon R. (1989), "Strategic Issues in Agricultural information, with special reference to developing countries". *IAALD Quarterly Bulletin,* Vol. 34 No. 3, pp.113-117.

127. Moin Ahmad and Haridasan, Sudharma, (2005), "Study of periodicals collection in National Library of Veterinary Sciences", *Annals of Library and Information Studies,* Vol. 52 No. 2, pp. 41-46.

128. Mukhejee, A.K. (1908), *Fundamental of special librarianship and documentation,* Calcutta: IASLIC

129. Musib, S. K. (1984), "Production of journals in agriculture, agricultural economics and economics: their country of origin, frequency and agency of publications". *Journal of Library and Information Science,* Vol. 9 No. 2, pp. 160-167.

130. Musib, S. K. (1989), "Information needs and sources of information of the rural agriculturalists". *Annals of Library Science and Documentation,* Vol. 36 No.1-2, pp. 63-67.

131. Naidu Hemasundar and Gunjal, S.R. (1993), "Agricultural library building and their structure in India", *Herald of Library Science,* Vol. 32 No 3-4; July-October, pp. 190-98.

132. Naidu, G. H and Gunjal, S .R. (1993), "Agricultural library buildings and their structure in India". *Herald of Library Science,* Vol. 32 No.3-4, pp. 190-198.

133. Naidu, G. H. and Gunjal, S. R. (1991), "Non-conventional literature in the agricultural libraries in India", *IASLIC Bulletin,* Vol. 36 No.1, pp.9-15.

134. Naidu, G. H. and Gunjal, S. R. (1992), "Reprographic services in the agricultural libraries in India", *LAALD Quarterly Bulletin,* Vol. 37 No.3, pp.159-163.

135. Namponya, C. R. (1986), "Agricultural development and library services", *International Library Review,* Vol.18 No.3, pp. 267-274.

136. National Dairy Research Institute (ICAR), Annual Report, 1991-1992

137. Nehla, R D and Murthy, T A V. (1985), "Agricultural Research Institute Library", *Herald of Library Science,* Vol.24 No.4, pp. 35-39.

138. Niekerk, Rona and V van. Et al. (1987), "Library user education in tertiary education: agriculture and life sciences", *South African Journal of Library and Information Science*, Vol. 55 No. 3, pp. 54-59.

139. Nomma, Fumiyasu(1994), "Information services of National Diet Library", *Herald of Library Science*, Vol. 33 no. 3-4, July- October, pp. 179-82.

140. Nwali, L 0. (1992), "Agricultural information provision in Nigeria: the case of Abubakar Tafawa Balewa University Library", *LAALD Quarterly Bulletin*, Vol. 37 No. 3, pp. 146-150.

141. O'Hare, Margaret, (1982), "British Library supported research in agricultural, biological and medical information", *ASLIB Proceedings*, Vol.34 No.3 pp. 57-63.

142. Odini, Cephas, (1994)6, "Collection development: the experience of Kenya Polytechnic Library", *Library Management*, Vol. 15 No. 4, pp.12-16.

143. Ojha, D C. et al. (1999), "AGRIS database: An experience with CAZRI scientists". *Annals of Library Science and Documentation*, Vo. 46 No. 2, pp.141-158.

144. Olsen, Wallace C. (1978), "AGRICOLA training implementation by the National Agricultural Library". *IAALD Quarterly Bulletin*, Vol. 23 No. 1-2, pp.1-4.

145. Pan Shuchin. (1989), "The Library of the Chinese Academy of Agricultural Sciences", *IAALD Quarterly Bulletin*, Vol. 34 No.1, pp. 120-138.

146. Parikh, Kirit S. (1976), "Information system for agricultural sector. *Annals of Library Science and Documentation*", Vol.23 No.1, pp. 48-86.

147. Paroda, R S. (1989), "*Research advances in crop sciences. Forty years of agricultural research and education in India*". New Delhi, ICAR, pp.35-80.

148. Patil, Y M and Kumar, P.S.G. (1998), "Agricultural information systems and services in retrospect and Prospects". *Library Science with Slant to Documentation and Information Studies*, Vol. 35 No.1, pp.37-45.

149. Peihua, J. (1993), "The model library project and the new library of Beijing Agricultural University".*Focus on International and Comparative Librarianship,* Vol. 24 No. 3, pp. 127-130.

150. Phadnis, S P. et al. (1977), "Training of agricultural scientists in information". *Journal of Library and Information Science,* Vol. 2 No.2, pp.151-181.

151. Popov, A. (1993), "Disseminating agricultural information under conditions of a market economy". *Journal of Agricultural and Food Information,* Vol.1 No. 2, pp. 97-106.

152. Pors, Niels Ole (1990), "Users, collection use and online searching: investigations in Danish Public Libraries", *International Journal of Information and Library Research,* Vol. 2 No. 2, pp. 63-76.

153. Powell, A P. (1994), "Information to the people: cooperation between the library and agricultural extension", *Journal of Agricultural and Food Information,* Vol. 2 No.2, pp.19-24.

154. Prodhani, M.A. (1982), "Press clipping service and its importance in agricultural research library". *Annals of Library Science and Documentation,* Vol. 29 No.3, pp. 135-137.

155. Prodhani, M.A. and Gautam, J.N. (1997), "Library services in the universities in North East India", *IASLIC Bulletin,* Vol.42 No. 4, pp.165-74.

156. Qiaoqiao Zhang. (1991), "Agricultural library and information systems in China". *Journal of Information Science.* Vol.17 No.4, pp. 55-58

157. Rajagopalan T. S. and Islam, S.L. (1963) National Grid of Scientific Libraries," In: Ranganathan, S. R. (eds), *Documentation and Its Facets.* Delhi. pp. 166-175.

158. Rajeev Kumar and Amritpal Kaur (2004), "Use of Internet by Teachers and students in Shaheed Bhagat Singh College of Engineering &

Technology: a case study", *Journal of Library and Information Science*, Vol. 29 No. 1-2, pp. 81-91.

159. Ramakrishna Rao, K. (1961), "Library development in India", *Library Quarterly*, Vol. 31, pp. 135-153.

160. Raman Nair, R and Francis, A.T. (1996), "Information needs of agricultural scientists in India: problems and prospects". *In: Proceedings of the IASLIC National Seminar 1996,* University of Calcutta, pp.121-126.

161. Raman Nair, R and Sathyan, K.P. (ed.) (2000), "Agricultural Information Systems: VISION 2020", Thrissur, IASLIC Study Circle.

162. Raman Nair, R. (1990), "Resource sharing networks for higher education at State level". *Proceedings of the National Seminar on Computerization and Library Network,* New Delhi, ILA, pp. 330-345.

163. Raman Nair, R. (1992), "Human resource development for automated library and information systems". *In: Proceedings of the National Conference on Library and Information Technology in Pursuit of Excellence.* Bhuvaneswar, Utkal University, pp. 290-301.

164. Raman Nair, R. (1996), "Priorities in information management systems for agricultural research and development in India". *In: Proceedings of National Conference on Role of Libraries in national development,* University of Calicut, ILA, pp.431-444.

165. Raman Nair, R. (1997), "Automating agricultural university libraries: Need for standards and guidelines", *In: Proceedings of CALIBER 97, Patiala,* Thapper Research Institute.

166. Raman Nair, R. (1997), "Sustainable management of library and information systems in agricultural universities",*In: Proceedings of National Seminar on Sustainable library and Information System development Punjab University,* Chandigarh, pp.125-142.

167. Raman Nair, R. (1998), "Strategic plans for designing information systems under local government". *In:Proceedings of the IASLIC Conference 1998.* Kerala Agricultural University, pp. 115.

168. Raman Nair, R. (1999), "Strategic planning of information technology in agricultural universities". *In: Proceedings of the National Seminar on Library Vision 2010: Indian Libraries and Librarianship in Retrospect and Prospect.* Hisar, Haryana Agricultural University, pp.740-756.

169. Raman Nair, R. (2000), "Kerala Agricultural University: Library and Information Services Vision 2020". *Agricultural Information Systems: VISION 2020.* Thrissur, IASLIC Study Circle, pp. 46-65.

170. Raman Nair, R. (2000), "Who should manage Information Technology development, Agricultural Information Systems: VISION 2020", IASLIC Study Circle, Thrissur, pp.7-15.

171. Raman Nair, R. (2001), "Content management for agricultural, research and development in India". *In: Proceedings of the IASLIC conference 2001,* Calcutta, IASLIC, pp. 31-42.

172. Raman Nair, R. Establishment of a digital library to support agricultural research, education and extension in India. *In: Proceedings of the 49nth FID Conference and Congress.* New Delhi: FID/INSDOC, 1998: III.69— III 81.

173. Ramesha and Kumbar, B.D. (2004), "Evaluation of circulation services: a case study of university libraries of Karnataka state", *Library Herald,* Vol. 42 No. 3, pp. 203-18.

174. Randhawa, R. S. (1989), *Agricultural research and education for productive agriculture. Forty years of agricultural research and education in India,* New Delhi: ICAR, , pp. 8-34.

175. Rasinski, J. (1993), "The Central Agricultural Library and the National Information System on Food Economy in Poland", *Journal of Agricultural and Food Information,* Vol.1 No.2, pp.55-63.

176. Ratna, Krishna Rao K. (1964), "Fifteen year library development programme for plan period 4 to 6", *Library science with a slant documentation*, Vol. 1, pp. 24-34.

177. Ravindran Achari (2000), "Nitya archives: a solution for organizing digitized content in agriculture, Agricultural Information Systems, Vision 2020". *Thrissur, IASLIC Study Circle*, pp. 79-81.

178. Reimenschneider, Charles H. and Boimen, James, T. (1979), " *National agricultural information systems: Design and Assessment*". Information systems for agriculture Ed by M.J. Blackie. Essex, Applied Science, pp. 145-171.

179. Ridley, A. F. (1925), "Special libraries and information bureaux: their development and future in Great Britain", *Library association Record*, Vol. 3 No. 12, P. 243.

180. Roshan Raina. (1997), "*Library resource sharing and networking: an approach to management schools of India*". Vikhas, New Delhi,

181. Rowley, J.E. and Turner C.M.D. (1976), *Dissemination of information*, London: Andre Deutsch, p. 67.

182. Saha, J. (1969), *Special Libraries and Information Services in India and in the USA*, Metuchen, N.J.: Scarecrow Press, P. 5

183. Sahu, J.K. (1997), "Library use: an analytical study", *Annals of Library Science and Documentation*, Vol. 44 No. 2, pp. 73-77.

184. Salt, David P. (1986), "An assessment of research level literature resources for agricultural engineering in a university library", *IAALD Quarterly Bulletin*, Vol.31 No.3, pp.127-130.

185. Sammi Reddy, R. (2002)15, "Development of central library at REC Warangal under UK-India RECs project 1994-1999: a case study", *IASLIC Bulletin*, Vol.47 no.2, pp.77-95.

186. Sandhu and Sarbjit Singh. (1979), "Library services to agricultural research scientists". *Indian Librarian*, Vol.34 No.2, pp. 5 1-54.

187. Sasikala, C. (1994), *Industrial Library Systems*, New Delhi: Reliance, p.35

188. Satia, J. (1969), *Special libraries and information services in India and in the USA*, Metichen: Scorecrow press.

189. Sebaston, N. J. (1990), *National Council of Applied Economic Research (Library & Information Activities),In: Handbook of Libraries, Archives and Information Centres*, vol. 8. Delhi: Aditya Prakashan, pp.161-163

190. Selth, Jeff, Koller, Nancy and Briscoe, Peter (1992), "The use of Books within the Library", *College & Research Libraries*, Vol. 53 No.3, pp. 197-205.

191. Senthilkumaran, P. and Vadivel, V. (2001), "Availability and utility of Tamil Nadu archives library", *SRELS Journal of Information Management*, Vol. 38 No. 3, pp.255-66.

192. Sepulveda, Orlando Arboleda, (1986), "Continuing education for agricultural librarians and information specialists in Latin America", *IAALD Quarterly Bulletin*, Vol. 31 No. 2, pp. 43-51.

193. Seth, M.K. et al. (1997), "Utility of Library collection in a special library: a case study", *IASLIC Bulletin*, Vol. 42 No.3, pp.107-10.

194. Seth, M.K. et al. (1997), "Utility of library collection in a special library: a case study", *IASLLC Bulletin*, Vol.42 No.3, pp.107-10.

195. Sethi, M.K., et al. (1997), "Utility of library collection in a special library: a case study", *IASLIC Bulletin*, Vol. 2 No. 3, pp. 107-110.

196. Shafi, S.M. (1997)12, "Health Science Research Libraries in India: an appraisal", *IASLIC Bulletin*, vol.42 No.3, pp.111-18.

197. Sharma, Hemant and Pant, Prem Prakash (2004), "Information seeking patterns of DRDO Scientists", *ILA Bulletin*, Vol. 40 No. 3, pp. 19-22.

198. Shaw, Ralph R. and Krishna Rao. (1957), *Report on Library and bibliographical services for Agricultural Teaching and Research in India,* New Delhi: ICAR.

199. Shill, H B. (1992), "Information publics and equitable access to electronic government information: the case of agriculture". *Government Information Quarterly,* Vol.9 No.3 pp.305-322.

200. Siddiqui, Asif Fareed (2002), "Use of Library Collection in the Jawaharlal Nehru University Library", *IASLIC Bulletin,* Vol. 47 No. 3, pp. 149-161.

201. Singh, Neeha (2004), "A Fresh look at agriculture library services: a need for change", *SRELS Journal of Information Management,* Vol. 14 No. 3, pp. 299-306.

202. Singh, Rajesh (1997), "User Survey: findings and Suggestions", *IASLIC Bulletin,* Vol. 42 No. 4, pp.179-84.

203. Singh, S.P. (1994), "Evaluation of collection and services provided by IIT Libraries: User's point of view", *Journal of Library & Information Science,* Vol.19 no.1, pp.1-18.

204. Stewart, S L. (1995), "User education at the National Agricultural Library". *Agricultural Libraries and Information Notes,* Vol.21 No. 4-6, pp.9-10

205. Strable, Edward G. (1975), *Special libraries,* New York: Special libraries Association.

206. Straus, Lucille J. (1972), *Scientific and technical libraries,* 2nd ed. New York: Becker and Hayes.

207. Strauss, Lucille J. et al. (1872), *Scientific and technical libraries,* 2nd ed., New York: Becker and Hayes.

208. Subba Rao, C.V. (1993), "National Central Library of India: proposal for establishment", *Herald of Library Science", Vol.* 32 NO. 3-4, pp. 181-90.

209. Surendar Mohan (1978), "Agricultural information network in India". *Annals of Library Science and Documentation,* Vol.25 No.1-4 pp.110-116.

210. Syed Jalaluddin Haider (1998), "Public libraries and development planning in Pakistan: a review of past efforts and future needs", *Asian Libraries*, Vol. 7 No. 2, pp. 47-57.

211. Szabo, S. (1993), "The present and future of the Hungarian agricultural special library and information services: results and problems". *Journal of Agricultural and Food Information*, Vol. 1 No.2, pp.45-54.

212. Thakur, D.S. (2003)14, "Growth and development of the library at National Institute of Financial Management: a case study", *Annals of Library and Information Studies*, Vol.50 No. 4, pp.163-74.

213. Thomas, Sarah E. (1989), "United States Agricultural Network: genesis of a cooperative organization". *Special Libraries* Vol.80 No.2 pp.113-117.

214. Tirth, Rama. (1978), "The National Agricultural Library". *Journal of Library and Information Science* Vol. 3 No.1, pp. 38-54.

215. Umarov, Absalom. The role of the National Library of Uzbekistan in its assistance to users. *In: Proceedings of the International Conference on National Library Services (ICONLIS 2004). Kakata*: The National Library, Department of culture, Government of India., 2004. pp.78-80.

216. UNESCO (1958), "Needs of special libraries", *UNESCO bulletin for libraries*, Vol. 10 No.11-12, p. 254.

217. Veeranjanyulu, K (2003), "Automation of Agricultural libraries in Andhra Pradesh: an overview", *Library Herald*, Vol.14 No. 3, pp. 176-181.

218. Vijaykumar, M. et al. (2000), "Information use by Library professionals: scientometric analysis", *ILA Bulletin*, Vol. 36 No. 1, pp.19-23.

219. Walton, Ronald J. (1977), "The National Agricultural Library Data Base", *Bulletin of the Medical Library Association*, Vol. 3 No.3, pp. 2 1-22.

220. White, H. S. (1984), *Managing the special library: white plains.* New York: Knowledge Industry Publication.

221. Wilfred, Ashworth, (ed.). (1962), *Handbook of special librarianship and information work*, London: ASLIB.

222. Williams, Sara R. and Phillips, Linda L. (2004), "Collection development embraces the digital age: a review of the literature, 1997-2003", *Library Resources & Technical Services*, Vol. 48 No. 4, pp. 273-84.

223. Zundel, Karen M. (1996), "Telemedicine: history, applications, and impact on librarianship, *Bulletin of Medical Library Association*, Vol. 84 No. 1, pp. 71-79.

Concerned Websites:

1. http://www.nml.nic.in/NMLNonFlash/history.html
2. http://www.nml.nic.in/NMLNonFlash/history.html
3. http://www.nml.nic.in/NMLNonFlash/mission.html
4. http://www.nml.nic.in/NMLNonFlash/generalinfo.html
5. http://www.nml.nic.in/NMLNonFlash/location.html
6. http://www.nml.nic.in/NMLNonFlash/criteria.html
7. http://www.nml.nic.in/NMLNonFlash/issue.html
8. http://www.nml.nic.in/NMLNonFlash/lossofbooks.html
9. http://www.nml.nic.in/NMLNonFlash/pbelongings.html
10. http://www.nml.nic.in/NMLNonFlash/management.html
11. http://www.nml.nic.in/NMLNonFlash/reglibrary.html
12. http://www.nml.nic.in/NMLNonFlash/reprography.html
13. http://www.nml.nic.in/NMLNonFlash/lending.html
14. http://www.nml.nic.in/NMLNonFlash/references.html
15. http://www.nml.nic.in/NMLNonFlash/inforetrieval.html
16. http://www.nml.nic.in/NMLNonFlash/activities.html
17. http://www.nml.nic.in/NMLNonFlash/sitemap.html
18. http://mohfw.nic.in/kk/95/ib/95ib1401.htm
19. http://www.niscair.res.in/ActivitiesandServices/act.asp?a=topframe.htm&b=leftcon.asp&c=MajorProjects/majproj.htm&d=test1

20. http://www.niscair.res.in/ActivitiesandServices/act.asp?a=topframe.htm&b=leftcon.asp&c=MajorProjects/majproj.htm&d=test1

21. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=OurCharter/ourcharter.htm&d=test

22. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ResearchJournals/rejour/rejour1.htm&d=test1

23. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

24. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

25. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=AbstractingJournals/abstracting_journals.htm&d=test2

26. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

27. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

28. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=RnDNewsLetters/rndnews.htm&d=test3

29. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=../activitiesandservices/products/woi1.htm&d=test4

30. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ScienceCommHindi/scicomhin.htm#Bharat&d=test5

31. http://www.niscair.res.in/ScienceCommunication/sci.asp?a=topframe.htm&b=leftcon.asp&c=ScholarlyBooks/scholarlybooks.htm&d=test6

32. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=mandate.htm&d=test1

33. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=achievement.htm&d=test9

34. http://www.niscair.res.in/aboutus/about.asp?a=topframe.htm&b=leftcon.asp&c=intcol.htm&d=test4

35. www.iari.res.in

36. http://www.iari.res.in/facilities.php

Appendices

Appendix-I

Questionnaire for Librarian/Head of the Library

Growth Development & Services of National Agricultural Library, New Delhi, National Medical Library, New Delhi, National Science Library, New Delhi: A Comparative Study

Dear Sir/Madam,

Your co-operation in filling in this questionnaire is solicited. All information provided in this questionnaire will be treated as strictly confidential and used only for research work.

To,

.....

.....

Section-A Library-organizational set up

Name of the library.....

Address.....

.....Tel. No. .....

Name of the Librarian .....

Year of establishment of the library .....

Parent Organization.....

A. 1 Has the library undergone major expansion during the past ten years?

Yes [ ] No [ ]

If yes, please state the year and give details.....

.....

A. 2 Has the library amalgamated or bifurcated in past ten years?

Yes [ ] No [ ]

Please give brief history (Attach a separate sheet if required) .....

.....

A.3 Does the library have a 'Library Committee?

Yes [ ] No [ ]

If Yes, please give details:

a) Advisory Yes [ ] No [ ]

b) Executive Yes [ ] No [ ]

c) Constitution of Library Committee members

.....

A. 4 Have the functions objectives of the Library been specifically laid down?

Yes [ ] No [ ]

If yes, please give details.....

A. 5 Have these objectives ever revised? Yes [ ] No [ ]

If yes, please state... (a) Formally [ ] (b) Informally, [ ] (c) Through library committee [ ]

Section-B Library Staff

B. 1 Please state the details of staff working in the library.

S.No.	Designation/Category	Qualification	Pary-scales of the posts	Number of posts
1.	Chief librarian			

2.	Chief documentation officer			
3.	Professional staff			
4.	Semi-Professional staff			
5.	Technical			
6.	Clerical			
7.	Supporting (unskilled total number of staff)			

(*if the designation differ, please mention the designation against substitute provision and give further details.)

Note: In case there has been any major change (increase/decrease) in staff provision in last ten years, please give details.....

.....

B.2 Is there any promotional policy for the library staff?

Yes [ ] No [ ]

If yes, please give details, whether it is based on

a) Seniority, and/or [ ]

b) Qualification, and/or [ ]

c) Performance, and/or [ ]

d) Combination of all above [ ]

B.3 Has the staff really felt motivated after getting the promotion?

Yes [ ] No [ ]

B.4 Please give last ten years account in the manner library staff got benefitted out of this provision:

a) Number of persons sent for training.....

b) Duration of training.....

B.5 Please indicate the number of percentage of staff engaged in various library operations:

a) Acquisition .....

b) Circulation .....

c) Technical processing .....

d) Bibliography, documentation reference, Reprography, Translation, Abstracting .....

e) General administration .....

Total .....

Section-C Size and Growth of Library Collection

C.1 What is the approximate size of your library's collection? (Write NA for the category of documents not available in the library)

Print Documents

a) Books/Monographs _____

b) Current journals (titles) _____

c) Bound volumes of journals _____

d) Research/Technical reports _____

e) Reference documents _____

f) Theses/ Dissertations _____

g) Manuscripts _____

h) Seminar/Conference papers _____

i) Maps/charts/diagrams _____

j) Patents/standards/specifications _____

k) Other (please specify) _____

Electronic Documents

a) CD-ROMs/ DVDs _____

b) Online/Internet Databases _____

c) Online Journals _____

d) Video/Audio cassettes _____

e) Microforms _____

f) Other (please specify) _____

C.2 Total break up of current primary and secondary journals:

(i) Indian

Primary : Print..... Online/Electronic.....

Secondary: Print..... Online/ Electronic.....

(ii) Foreign:

Primary : Print..... Online/Electronic.....

Secondary: Print ..... Online/Electronic.....

Section-D Type of Library Collections

D.1 Please indicate the year wise growth of collections of various documents in the library:

Documents	**2003-04**	**2004-05**	**2005-06**	**2006-07**
Print Documents				
Books/Monographs	____	____	____	____

Journals /periodical/magazines	——	——	——	——
Manuscripts	——	——	——	------
Research/Technical reports	——	——	——	------
Reference documents	——	——	——	——
Theses/ Dissertations	——	——	——	-----
Seminar/conf. papers	——	——	——	——
Maps/charts/diagrams	——	——	——	——
Patents/standards	——	——	——	——

Other (please specify) .....

Electronic Documents	**2003-04**	**2004-05**	**2005-06**	**2006-07**
CD/DVD-ROMs	——	——	——	——
Online Databases	——	——	——	——
Online Journals	——	——	——	——
Video/Audio cassettes	——	——	——	——
Microforms	——	——	——	——

Other (please specify).....

Section-E Library Budget

E.1 Please give the details of the total annual budget for these years:

Years	**Library Budget (In Rs.)**
2000-01	.....
2001-02	.....
2002-03	.....
2003-04	.....
2004-05	.....
2005-06	.....
2006-07	.....

E.2 Please state whether library budge is:

a) Adequate [ ] b) Fairly adequate [ ] c) Inadequate [ ]

Section-F Acquisition

F.1 Does the library have written acquisition policy? Yes [ ] No [ ]

If yes, please give details.....

F.2 Whether the librarian is kept informed about the current policy, programmes of the parent organization? Yes [ ] No [ ]

F.3 What are the modes of Acquisition (Please give broad percentage of acquisition?)

a) Gift [%]

b) Exchange [%]

c) Purchase [%]

F.4 Please give detail of number of document received as:

a) Gift _____

b) Exchange _____

c) Purchase _____

F.5 Does the library face problem in acquisition of the following?

a) Foreign material Yes[ ] No[ ]

b) Indian material Yes[ ] No[ ]

c) Government publications Yes[ ] No[ ]

If yes, please specify.....

F.6 Please give details of library budget in year-wise break up.

S. No.	Items	2003-04 Rs. Pa.	2004-05 Rs. Pa.	2005-06 Rs. Pa.	2006-07 Rs. Pa.
1	Books				
2	Current periodicals				
3	Back issue of journal				
4	Electronic resources				
5	Other				

Section-G Technical Services

G.1 Please tick mark the classification scheme used in the library

a) Colon Classification [ ]

b) Universal Decimal Classification [ ]

c) Dewey Decimal Classification [ ]

d) Any other (Please specify) .....

G.2Please indicate the cataloguing code used in your library (please tick mark)

a) Classified Catalogue Code (CCC) [ ]

b) Anglo-American Catalogue Rules (AACR) [ ]

c) Any other .....

G.3 In existing classification scheme found helpful? Yes [ ] No [ ]

G.4 Does the library maintain any special catalogue? Yes [ ] No [ ]

Section-H Weeding out of Books

H.1 Is there any laid down criteria for weeding out the reading-material of the library? Yes [ ] No [ ]

If yes, please give details

a) Obsolete Material .....

b) As per Local Rules.....

c) Any other Rules.....

H.2 Please indicate the frequency of weeding out of materials.

a) Annually [ ]

b) After five years [ ]

c) After ten year [ ]

d) One Adhoc basis. [ ]

Section-I Library Building

I.1 Please indicate the space provided is-

a) Adequate [ ] b) Fairly Adequate [ ] c) Inadequate [ ]

I.2 Reading and stacks are combined? Yes [ ] No [ ]

I.3 Exclusive space provided for the Reading-Room? Yes [ ] No [ ]

I.4 Was there any expansion in accommodation in past ten years?

Yes [ ] No [ ]

If yes, please give details.....

Section-J Library Services

J.1 Do you offer following services?

a) Reprography Yes [ ] No [ ]

b) Microfilm service Yes [ ] No [ ]

c) Information service Yes [ ] No [ ]

d) Inter-library loan facility Yes [ ] No [ ]

e) Translation service Yes [ ] No [ ]

f) CAS Yes [ ] No [ ]

g) SDI Yes [ ] No [ ]

h) Bibliographic service Yes [ ] No [ ]

i) CD/DVD ROM Yes [ ] No [ ]

j) Online service Yes [ ] No [ ]

k) Online journals/databases Yes [ ] No [ ]

Section-K Journals

K.1 Do you have a separate Periodical section? Yes [ ] No [ ]

K.2 Do you circulate loose issues of Periodicals? Yes [ ] No [ ]

Section-L Access to Online Journals/ Databases and Documents

L.1 Do you provide online access to your collections?

Yes [ ] No [ ]

L.1 (a) If Yes, please indicate the means of accessing

a) On library Intranet, for users within the library [ ]

b) On campus Intranet, for Institute/ campus only [ ]

c) On Internet for library users only [ ]

d) On Internet for global access [ ]

L.1 (b) If No, please indicate the reason(s):

a) Lack of Online Journals/ Databases [ ]

b) Lack of infrastructure to support access [ ]

c) Copyright problems [ ]

d) Other (please specify).....

Section-M Computer Application

M.1 Please indicate the services undertaken by using computer. (Please tick all that apply)

a) Accession list Yes [ ] No [ ]

b) Book order list Yes [ ] No [ ]

c) Current awareness services Yes [ ] No [ ]

d) Circulation Yes [ ] No [ ]

e) Cataloguing Yes [ ] No [ ]

f) Document delivery Yes [ ] No [ ]

g) Respective literature search Yes [ ] No [ ]

h) Serial control Yes [ ] No [ ]

i) S.D.I Service Yes [ ] No [ ]

j) Other (specify).....

M.2 Whether computerization had impact on:

a) Better utilization of the library Yes [ ] No [ ]

b) Reducing the pressure Yes [ ] No [ ]

c) Nothing definite Yes [ ] No [ ]

M.3 Does the library participate in any National information network such as:

NIC, NISSAT? Yes [ ] No [ ]

If yes, please specify.....

M.4 Does the library participate in any international information network/ agency? Yes [ ] No [ ]

If yes, specify.....

Section-N Administrative factors and problems

N.1 In your opinion which one of the following types of problems affecting the development of the library. (Please tick all that apply)

a) Inadequate budget [ ]

b) Lack of planning [ ]

c) Lack of interest in library problem at the organization level [ ]

d) Shortage of staff [ ]

e) Lack of adequate physical facilities [ ]

f) Inadequately trained staff [ ]

g) Improper salary structure of library staff [ ]

h) Lack of subject specialist in library staff [ ]

i) Lack of centralized library operations [ ]

j) Other (specify).....

N.2 What operations you would like to improve? (Please tick all that apply)

S. No.	Operations	Very much	Much	Ordinary	less	Very less	Not at all
1.	Cataloguing						
2.	Classification						
3.	Reference collection						
4.	Abstracting & indexing						
5.	Selection of material						

6.	Serial control						
7.	Control of audio-visual material						
8.	Circulation control						
9.	Budgeting						
10.	Planning and administration						
11.	Automation planning						
12.	Staff recruiting						
13.	Staff training						
14.	Other (Please specify)						

Please enlist suggestions for improving the existing facilities and services

.....

Please attach a copy of:

Annual report (electronic/printed) of the library

List of periodicals being subscribed by the library.

Thank you for sparing time in filling up of this questionnaire. Please write your suggestions or comments about how to improve the library services.

.....

.....

(Signature)

Appendix-II

Questionnaire for Users

Growth Development & Services of National Agricultural Library, New Delhi, National Medical Library, New Delhi, National Science Library, New Delhi: A Comparative Study

Demographic Information

Name:.....

Your status: Student [ ] Research Scholar [ ] Faculty Member [ ]

Gender: Male [ ] Female [ ]

Area of specialization (If any).....

E-mail Id.....

Webpage.....

(Please reply the following by marking in the relevant column)

1. How often do you use the Library?	Daily	Twice a week	Once in a week	Monthly	Occasionally
(a) Your Institution's library					
(b) Any other Library					

2. Pls. indicate the purpose of visiting the library? (tick all that apply)

a) For general awareness [ ]

b) Updating knowledge [ ]

c) Study and research work [ ]

d) Teaching [ ]

e) Others [ ]

3. Please give your opinion about the availability of reading seats

a) Adequate [ ]

b) Not adequate [ ]

c) No response [ ]

4. Which of the following library resources do you use? (Tick all that apply)

a) Books [ ]
b) Periodicals/Journals [ ]
c) Reference Books [ ]
d) Theses/Dissertations [ ]
e) Indexing/Abstracting Journals [ ]
f) Technical Reports/Standards/Monographs/Patents [ ]

5. Do you use the following electronic information sources? (Tick all that apply)

a) Online database Yes [ ] No [ ]

b) E-Journals Yes [ ] No [ ]

c) CD-Rom Database Yes [ ] No [ ]

6. Please indicate the frequency of use of e-resources (Tick only one)

a) Daily [ ]

b) Twice in a week [ ]

c) Weekly [ ]

d) Monthly [ ]

e) Occasionally [ ]

7. What are your favorite activities while using Internet? (Tick all that apply)

a) E-mail [ ]

b) Discussion Forums [ ]

c) Blogging [ ]

d) Online learning/E-Learning [ ]

e) Preparing presentations, documents [ ]

f) Other (please specify).....

8. What problem (s) do you face while using e-Resources? (Tick all that apply)

a) Not familiar with modem technique [ ]

b) Lack of trained Staff [ ]

c) Financial [ ]

d) Inadequate infrastructure [ ]

e) Lack of printing facility [ ]

f) Other (please specify).....

9. Do you use the following information services provided by the library? (Tick all that apply)

a) Circulation Service Yes [ ] No [ ]

b) Current Awareness Service (CAS)/Selective Dissemination of Information (SDI) Yes [ ] No [ ]

c) Indexing/Abstracting Service Yes [ ] No [ ]

d) Reprography Service Yes [ ] No [ ]

e) Translation Service Yes [ ] No [ ]

f) Document Delivery Service (DDS) Yes [ ] No [ ]

g) Inter-library loan Service (ILL) Yes [ ] No [ ]

h) Other (please specify).....

10. Are you satisfied with the following services offered by the library?

a) Circulation Services Yes [ ] No [ ]

b) Reference Services Yes [ ] No [ ]

c) Current Awareness Service (CAS)/Selective Dissemination of Information Services (SDI) Yes [ ] No [ ]

d) Indexing/Abstracting services Yes [ ] No [ ]

e) Reprographic services Yes [ ] No [ ]

f) Inter-Library Loan Services Yes [ ] No [ ]

g) CD-Rom database Yes [ ] No [ ]

h) Online database Yes [ ] No [ ]

i) E-journals service Yes [ ] No [ ]

j) Internet Services Yes [ ] No [ ]

k) Seating Arrangement Yes [ ] No [ ]

11. What is your opinion regarding the efficiency of library staff? (Please tick one)

a) Excellent [ ]

b) Very good [ ]

c) Good [ ]

d) Average [ ]

e) Below average [ ]

Thank you for sparing time to answer the above questions. Please write your suggestions or comments about how to improve the library services.

.....

.....

Signature